10¢ A COPY

The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

January 4, 1929 **Volume 52. No. 3**

IT'S A WILSON!

more hole per day!

First in
Safety
Speed
Strength
Convenience

Wilson Extra-Heavy Center-Latch Elevator

RUNNING in and breaking out drill pipe is where time is "eaten up." The drilling cost for many companies averages around $60 per hour. Wilson Elevators save their initial cost many times over by reducing time. The handles of the Centerlatch type are easy to grasp and are always in balance so the Elevator can be swung around the pipe with little effort. The latch automatically locks instantly and positively. The impact of the Elevator striking the tool joint never causes strain because every part is reinforced and designed extra rugged to withstand overload stresses. They give your Crew a "helping hand"—and help make *More Hole per Day!*

Succeeding WILSON & WILLARD MFG. CO.

WILSON OIL TOOLS CORP.
OIL TOOLS DIVISION
of
Byron Jackson Pump Co.
2301 E. Vernon Avenue, Los Angeles, California

Products—Elevators · Tongs · Underreamers · Circulating Heads · Rotary Drive Bushings · Pistons and Valves for Sleeb Pumps · Slotted Screen Pipe

Factory Representatives:
Tulsa, Okla., 409 Atlas Life Bldg.
Houston, Texas, 2201 Breckenridge St.
Ft. Worth, Tex., 814 Dan Waggoner Bldg.
New York, N. Y., 1245 Graybar Bldg.

For assured Results

Elliott Core Drill

Elliott Core Drills have pioneered the coring of oil wells. They have recovered perfect cores of practically every formation throughout the oil fields of the world with uniform success. For assured results you can depend upon this time tested and proven core drilling equipment. Complete data and information on request.

ELLIOTT CORE DRILLING CO.
850 Subway Terminal Building
LOS ANGELES, CALIFORNIA

Branches:
3210 Harrisburg Blvd., Houston, Texas
15 So. Madison St., Tulsa, Okla.
618 Lake St., Shreveport, La.
104 Brien St., Beaumont, Texas
Elms Specialty Company
516 Seventh St., Wichita Falls, Texas
417 S. Washington St., El Dorado, Arkansas
Export Office: 150 Broadway, New York

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year; 10 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1897.

Easy Running!

TIMKEN Tapered Roller BEARINGS

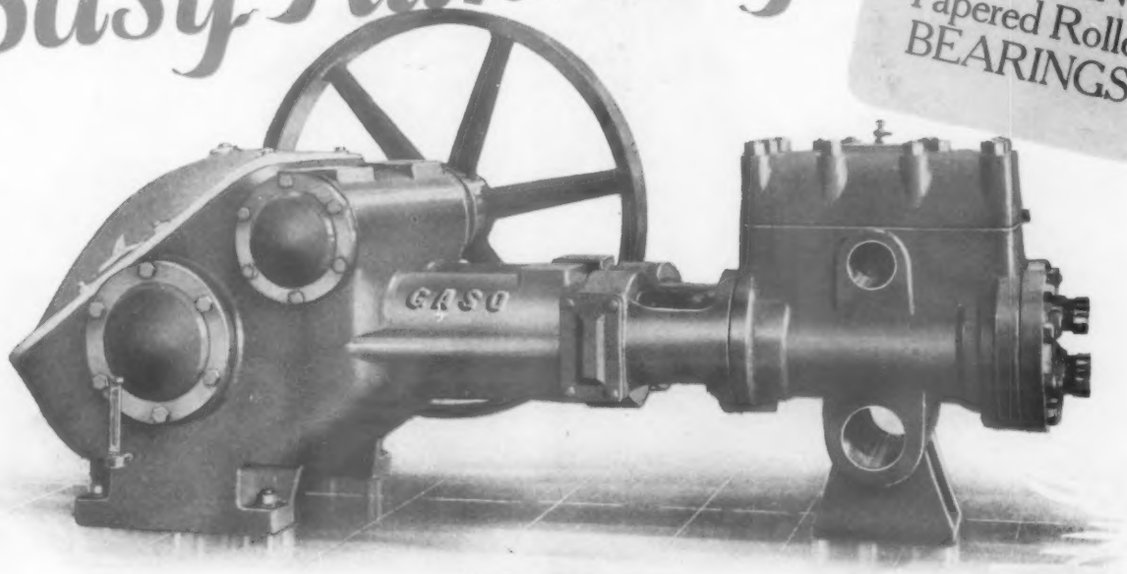


FIGURE 1508

SOLID HERRINGBONE GEAR

COMPLETELY ENCLOSED CRANKCASE

WORKING PARTS RUN IN AN OIL BATH

Absence of Friction Insures Long Life for this Gaso Pump

This Gaso Figure 1508 general service type pump is a machine of such fine design and manufacture that friction and wear have been eliminated to a truly remarkable degree. As a result, the maximum amount of power is turned into useful work, and maximum length of service is insured.

Enclosed crank case, with automatic lubrication—Timken Tapered Roller pinion and main bearings—gear of solid Herringbone construction, mounted in center on steel crank shaft—a double stuffing box arrangement between the power and fluid ends, which positively protect the oil reservoir from seeping water—are features of interest in the efficiency and durability of this pump.

Gaso Pump, Figure 1508, designed for pressures ranging from 250 to 800 pounds, is arranged for any type of drive—(1) pulley for belt drive, (2) direct connected to engine through flexible coupling, (3) motor, through silent chain or reduction gears, and (4) "V" rope drive. Investigate by letter, wire or phone.

GASO PUMP & BURNER MFG. CO.
TULSA, OKLAHOMA
Texas Office: 210 Petroleum Bldg., Fort Worth

GASO PUMPS
for every oil industry need

ADVERTISING INDEX .....21 NEWS INDEX 23

1,420,000 *Horsepower!*

OUT to the far corners of the earth the exhausts of Bessemer's million four hundred and twenty thousand horsepower have sounded their "Song of Service". Into the teeth of the four winds they have hurled their challenge to Time, Wear and Abuse.

For thirty years Bessemers have been building a reputation of performance surpassed by none. During these thirty years this vast array of Bessemer horsepower has consistently *proved* its right to leadership—in engineering, in construction and in serviceability.

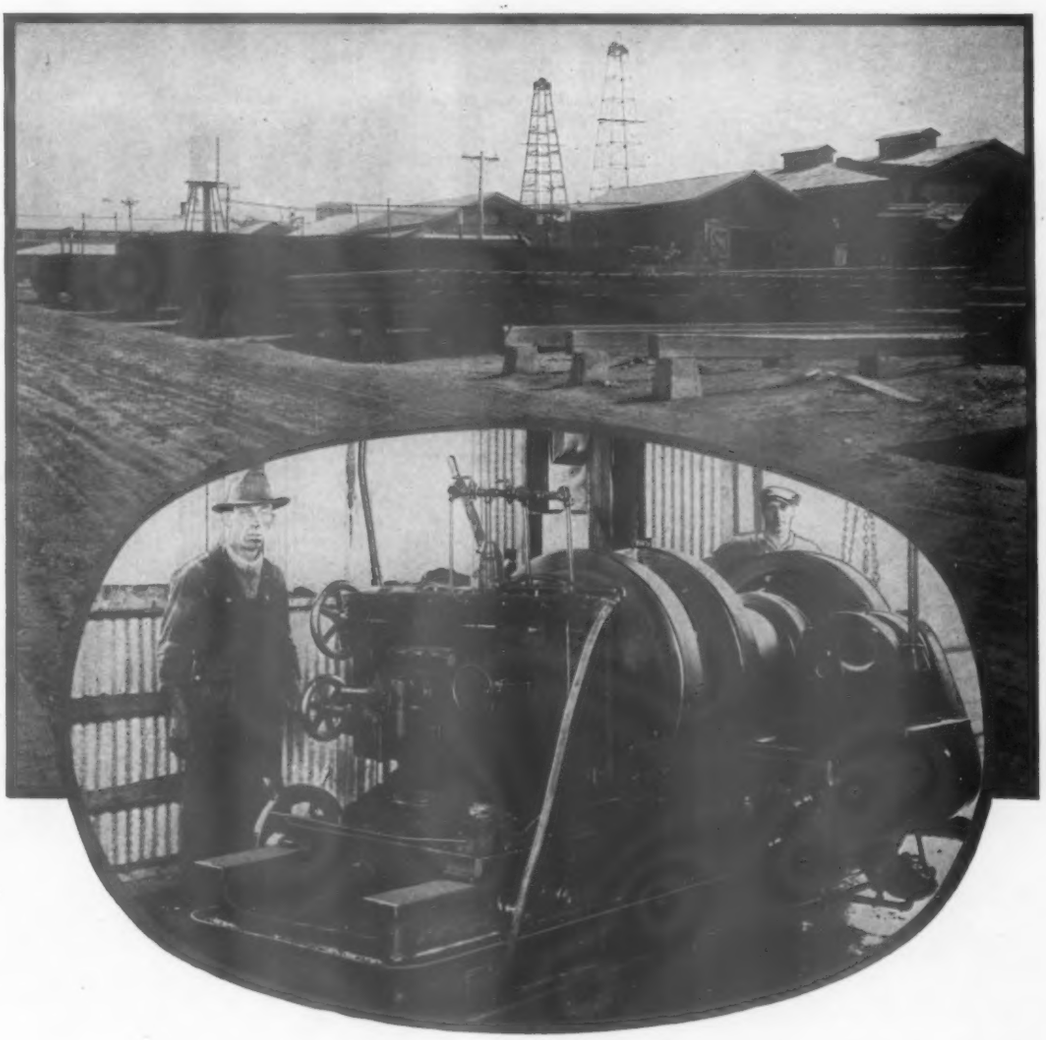
Get the most out of *your* oil field power equipment dollars by buying Bessemers—proved by a million four hundred and twenty thousand horsepower.

BESSEMER ENGINE COMPANY
York Street ∴ Grove City, Pa.

BESSEMER

Say you saw it in The OIL WEEKLY

SOUND BUSINESS



The Producers Pipe & Supply Company of Tulsa, Oklahoma, gain and hold customers through the first class threads they cut on their 12" Landis Pipe Threading and Cutting Machine.

They know that it is sound business to make satisfied customers by producing work of high quality. They know also that it is sound business to install the most economical and fastest operating pipe threading equipment possible. As in all shops where good threads, high production, and economical operation count, they use Landis.

It is entirely a mattter of *distinctive design* that Landis Machines do better work, just as it is a matter of *distinctive design* that they are more economical to operate and give higher production than other pipe threading machines. They are doing it for hundreds of users.

Sound business urges you to equip your shop with Landis.

Write us today—it will pay you.

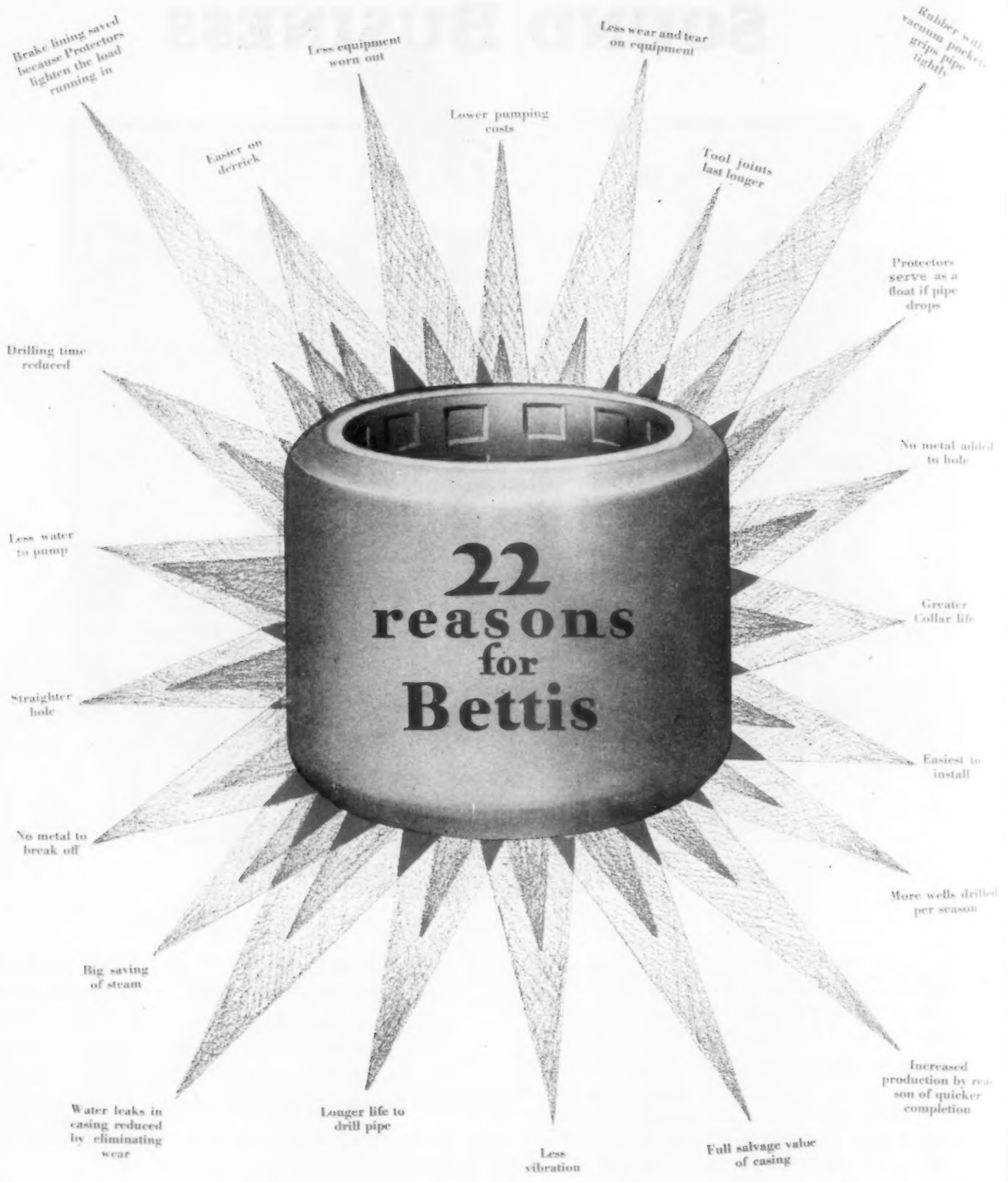
LANDIS MACHINE COMPANY, Inc.

WAYNESBORO, PENNA., U. S. A.

Detroit Office: 5928 Second Blvd.

Represented in the Domestic Oil Fields by: **Colcord-Wright Machinery and Supply Co., St. Louis, Mo.; D. S. Mair Machinery Co., Houston, Tex.; Woodward Wight & Co., New Orleans, La.; Herberts Machinery & Supply Co., Los Angeles; Herberts Moore Machinery Co., San Francisco, Calif; Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo.**

Say you saw it in The OIL WEEKLY


Brake lining saved because Protectors lighten the load running in
Less equipment worn out
Less wear and tear on equipment
Rubber with vacuum pockets grips pipe tightly
Easier on derrick
Lower pumping costs
Tool joints last longer
Protectors serve as a float if pipe drops
Drilling time reduced
No metal added to hole
Less water to pump
22 reasons for Bettis
Greater Collar life
Straighter hole
Easiest to install
No metal to break off
More wells drilled per season
Big saving of steam
Increased production by reason of quicker completion
Water leaks in casing reduced by eliminating wear
Longer life to drill pipe
Less vibration
Full salvage value of casing

"Best bet yet!"

Bettis Protectors - The

1 year ago Bettis protectors were *unknown* to most Drillers

Today 95,762 are in service

Our New Catalog Will Interest You

This new catalog records the performance of Bettis Protectors in the field, describes the methods of installation, illustrates the Product and tells about the testing and manufacturing methods. We shall be pleased to send a copy to you and also a sample of the actual rubber used in Bettis Protectors, for testing and observation.

Fully patented
No Seams
No Hinges
No Metal

Patterson-Ballagh Corporation

Manufacturers

Insurance Exchange Bldg., Los Angeles

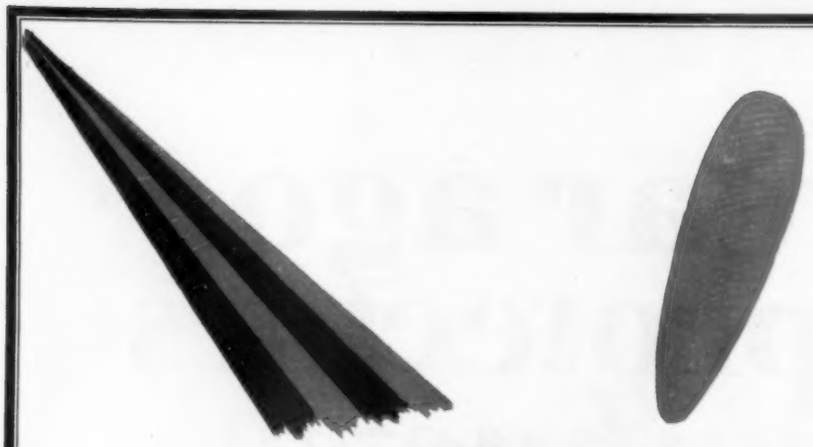
Texas and Louisiana Distributors:

Bettis Sales Co., 617 Public National Bank Bldg., Houston

New York Office: 39 Cortlandt St.

genuine anti-friction Rubbers

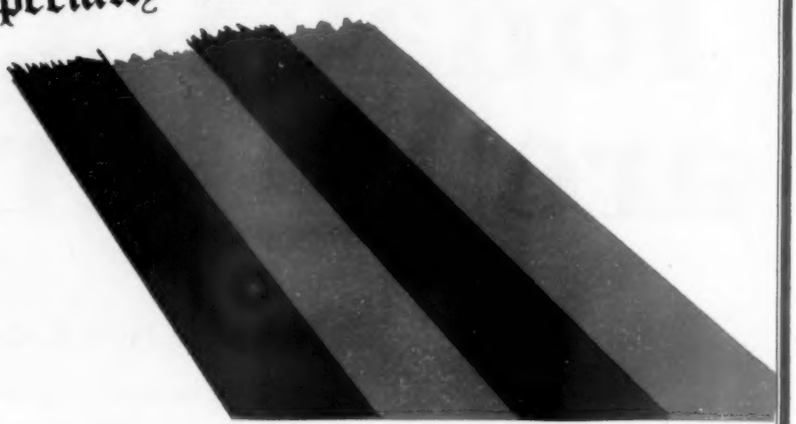
Say you saw it in The OIL WEEKLY



To Oil Men

A Happy New Year

and a generous share of the prosperity
that seems especially assured for 1929



is the wish of the MISSION family:—the KIBELE Piston—the SECO Valve, Seat Puller and Hose Clamp—the KIBELE Guy Wire Tightener.

MISSION

Sales Company, Inc.,

Esperson Bldg.

HOUSTON

The Greyhound of Drilling Engines

The *unsurpassed drilling speed* of the CLARK Drilling Engine is a vital factor in its widespread popularity among independent drilling contractors and others who realize the cost of time in drilling for producers.

The CLARK is always ready to start drilling hole—no waste of time after shut-downs. It will maintain maximum power at maximum speed indefinitely. It pulls bailer and tools at the highest speed. Many extra feet of hole daily are averaged with this engine—yet it is a slow speed machine which continually amazes experienced drillers with its long life and maintenance economy. Reduced fuel cost and absence of water expense also contribute to the important savings effected.

The CLARK Drilling Engine develops 35 to 120 brake horsepower at 85 to 500 R.P.M. It provides full derrick floor control and is easily moved on its own truck.

Ask for actual performance records of this engine. Clark Bros. Company, Olean, N. Y. Branches and Warehouses: 125 West First St., Tulsa; McCamey and Sweetwater, Texas; and Artesia, N. M. Smith, Booth, Usher Company, 228 S. Central Ave., Los Angeles, and 50 Fremont St., San Francisco.

Clark Bros. Co. OLEAN N.Y.

CLARK

Say you saw it in The OIL WEEKLY

Here Equipment *Must* Be Dependable

Those in charge of lines like this have little patience with inferior equipment. Lines are long and problems plentiful. Leaky valves and indifferent connections have no place in the picture.

Unusual care is taken, therefore, in the selection of pipe line equipment.... Yes, thank you, the sale of Jarecki Valves and Fittings in this field is satisfactory—and growing right along.

Your nearest Jarecki store is waiting to serve you!

P.S. When in need of rush service on LINE PIPE, you will usually get what you want from Jarecki.

8-inch line, Phillips Petroleum Co. property, Burbank field—Jarecki Valves and Fittings used.

Jarecki

MANUFACTURING COMPANY

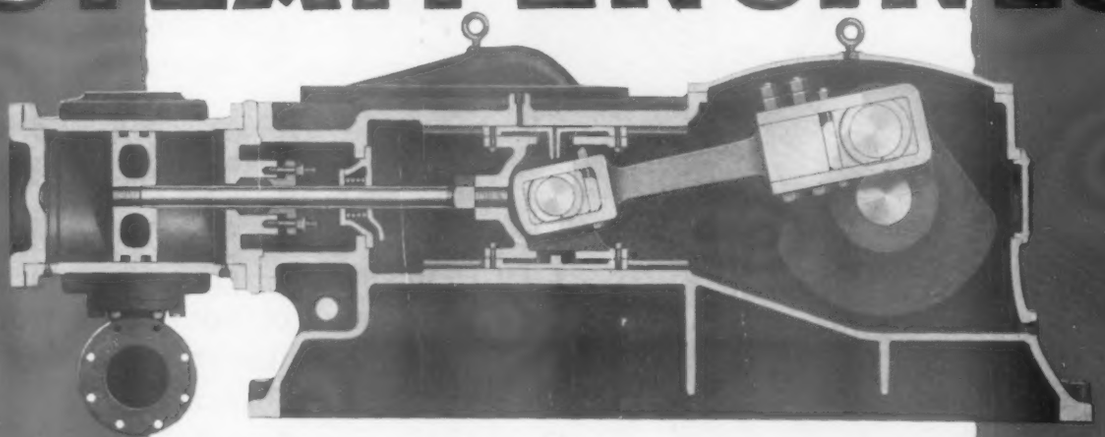
General Office, St. Louis, Mo. Home Office and Factory—Erie, Pa., U. S. A.

Branch stores at all important places in the Oil Country.

District Offices { Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

TITUSVILLE

TWIN CYLINDER ROLLER BEARING STEAM ENGINES



They are clean cut · · and can be kept clean

For quick starting, stopping or reversing—for a steady flow of power at all times, the Titusville Twin Cylinder has never had an equal.

And now added to the time-tried dependability of the open type Titusville Twin Cylinder Engine is the further refinement of a protective housing which completely encloses the new Titusville Twin Cylinder Engine. This gives it the distinctive advantages of the splash system of lubrication resulting in a greater oil economy and a positive, automatic lubrication found in no other type of steam drilling engine. Furthermore, no dirt, sand or other foreign matter can get into the crankshaft, which is equipped with Timken Roller Bearings.

If you would have the latest development in super-efficient Steam Drilling Engines see our new engine.

The TITUSVILLE IRON WORKS Co.
TITUSVILLE · PENNA.

Titusville Acme Boilers Single and Twin Steam Drilling Engines Tico Gas Engines Band Wheel and Geared Powers

DISTRIBUTORS

The CONTINENTAL SUPPLY COMPANY

For Export
THE CONTINENTAL WELL SUPPLY CO.
72-76 Trinity Court,
New York City, N. Y.

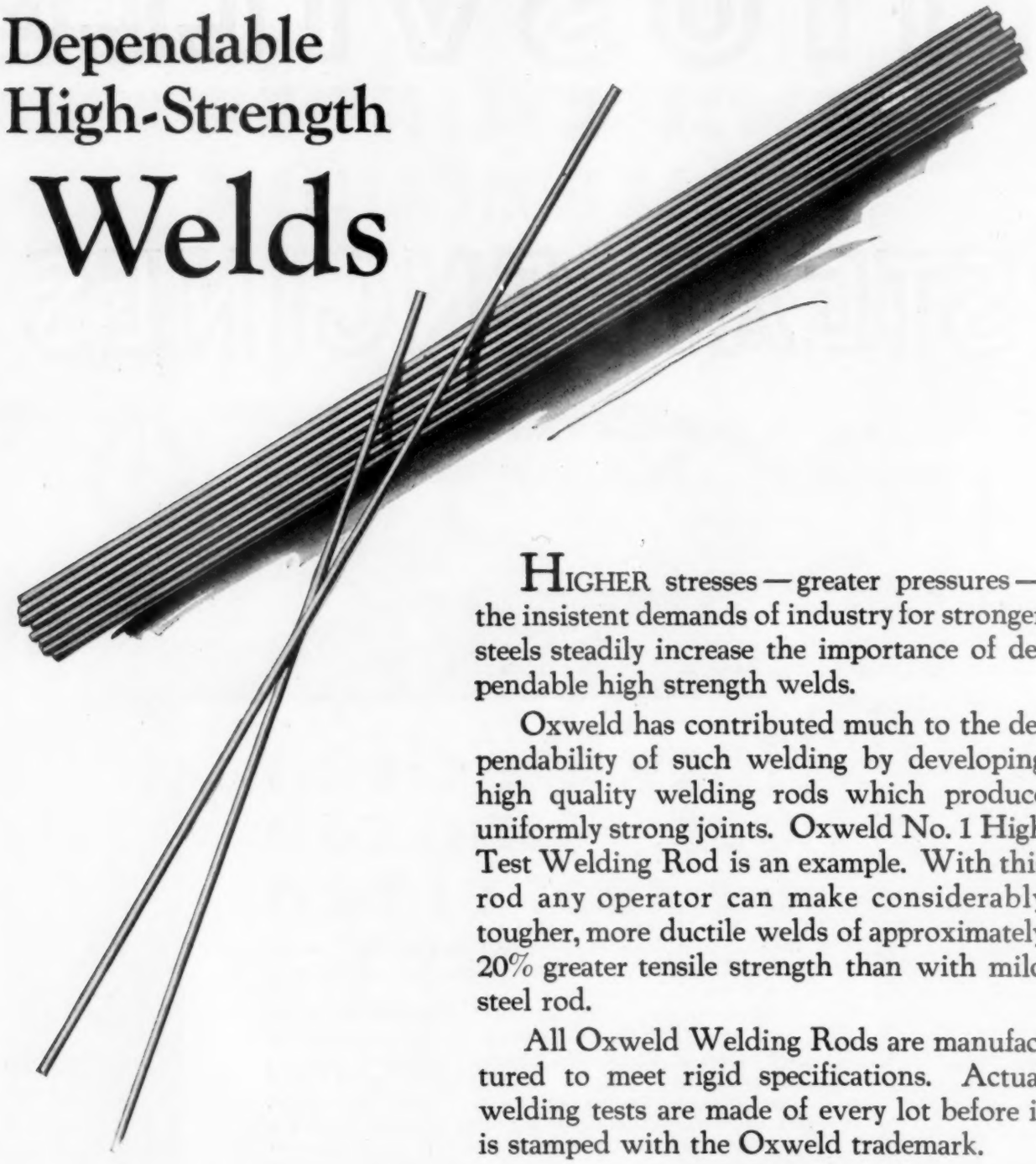
TITUSVILLE OIL COUNTRY MACHINERY

For California
CALIFORNIA MACHINERY SUPPLY CO.
2449-55 Hunter St.,
Los Angeles, Calif.

Titusville Acme Rotaries Acme Swivels and Speed Draw Works High Pressure Boilers Crown Blocks Slush Pumps

RUGGED - ENDURING

Dependable High-Strength Welds



HIGHER stresses — greater pressures — the insistent demands of industry for stronger steels steadily increase the importance of dependable high strength welds.

Oxweld has contributed much to the dependability of such welding by developing high quality welding rods which produce uniformly strong joints. Oxweld No. 1 High Test Welding Rod is an example. With this rod any operator can make considerably tougher, more ductile welds of approximately 20% greater tensile strength than with mild steel rod.

All Oxweld Welding Rods are manufactured to meet rigid specifications. Actual welding tests are made of every lot before it is stamped with the Oxweld trademark.

OXWELD

WELDING AND CUTTING APPARATUS AND SUPPLIES

OXWELD ACETYLENE COMPANY

Unit of Union Carbide and Carbon Corporation

NEW YORK, 30 E. 42d St. UCC CHICAGO, Peoples Gas Bldg.

SAN FRANCISCO, Adam Grant Building

IN CANADA, Dominion Oxygen Company, Toronto

STOCKS IN 38 CITIES

YOU BUY TIME

TIME is the essence of value. A great oil executive said to his Purchasing Agent . . . "John as far as machined steel is concerned, there are a lot of good tools. By watching closely, you can save a little here and there, which saving at the end of the year will be considerable . . . but there is one thing above all I want you to watch. That is TIME. What would it profit to save $7.00 on a valve and because of delay in delivery lose $50,000 on the well. Deal with people who will deliver on TIME."

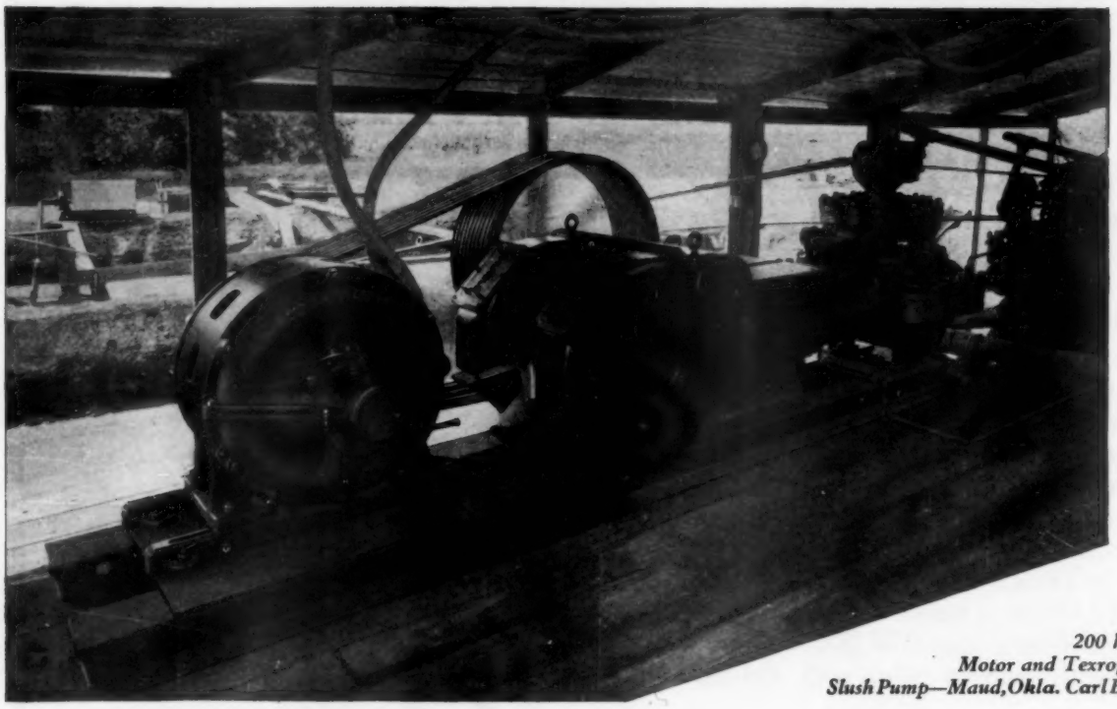
This little sermonette expresses our business philospohy. When a well is at stake, the greatest thing a Purchasing Agent can buy is TIME.

Out of the ample stocks of the Norvell-Wilder warehouses, *Oil Field Supplies* are delivered when promised—ON TIME. Quantity buying makes the prices right too.

NORVELL WILDER HARDWARE CO.

QUALITY AND SERVICE

BEAUMONT HOUSTON SHREVEPORT FORT WORTH



200 h.p. Allis-Chalmers Motor and Texrope Drive operating Slush Pump—Maud, Okla. Carl B. King Drilling Co.

Taking the Trouble out of Slush Pump Drives

UNTIL the advent of Texrope Drives, slush pump-drives were put in the same class as Missouri mules—necessary evils. Sometimes they behaved fairly well, but most of the time they gave trouble. Now a solution is here, as is evidenced by the number of operators successfully using Texropes for driving Slush Pumps.

Texropes cannot slip or run off the sheaves. The wedging action increases with the load, and results in a positive drive at all times. Texrope Drives require no lubrication, the multiplicity of belts is protection against breakdown, and the elasticity of Texropes insures a flexible drive.

Allis-Chalmers Motors and Slush Pump Controls are built for severe service and heavy overloads. Rigid frames and large bearings, together with conservative electrical design, insure a machine that will stay on the job when circulation means saving the hole.

ALLIS-CHALMERS MFG. CO., MILWAUKEE

District Sales Offices in all Principal Cities

ALLIS-CHALMERS MOTORS and TEXROPE DRIVES

Products for the Oil Industry

Single and Double Reduction Units
Texrope Drives
Motors and Control
Transformers
Centrifugal Pumps
Pipe Line Pumps

Oil Field Offices

DALLAS
HOUSTON
NEW ORLEANS
KANSAS CITY
DENVER
LOS ANGELES
SAN FRANCISCO

WESTERN SUPPLY CO., Tulsa
WESCO SUPPLY CO., Los Angeles

Export

AMERICAN STEEL EXPORT COMPANY, NEW YORK

THESE *NEW* IDEAS make a BETTER VISE

Williams' New "Vulcan Superior" beats any pipe vise on the market for convenience, speed and long life. It embodies two new ideas in Chain Pipe Vise construction—

1. "Overhead" adjustment—the handle is up ON TOP where it's easy to operate.
2. Reversible jaws—for longer life. When the teeth first in use wear, simply unscrew the bolts and turn the jaws over.

These valuable features are found ONLY in Williams' "Vulcan Superior"—they're patented.

You need this better vise in your work. Get it today.

J. H. WILLIAMS & CO.
"The Drop-Forging People"
New York BUFFALO Chicago

TWO SIZES:
No. 11 for ⅛" to 2½" pipe.
No. 12 for ¼" to 4½" pipe.
½" larger capacity in each case than other chain pipe Vises.

CHROME PLATED FINISH

Wholly Made of WROUGHT STEEL

Fully Guaranteed

WILLIAMS
SUPERIOR DROP-FORGED TOOLS
"VULCAN" SUPERIOR CHAIN PIPE VISE

Insist On Genuine *Puddled* Wrought Iron for There's Nothing "Just As Good"

Time is the only real test of pipe usefulness and pipe endurance.

And Time has shown no other pipe that combines *all* the qualities that are found in genuine *puddled* wrought iron pipe.

All Reading Pipe is made of long-lasting puddled wrought iron. The pure iron is *kneaded* and worked with a silicious slag inside the furnace—in the time-tested way.

That's why every inmost fiber of Reading Pipe is protected from corrosion. That's why Reading Pipe resists continual strain and vibration—threads better—lasts years longer than ordinary pipe.

To be certain that you get genuine *puddled* wrought iron, look for the Reading name, date of manufacture and spiral knurl mark on every piece of pipe you buy.

READING PIPE

GENUINE PUDDLED WROUGHT IRON

READING IRON COMPANY, Reading, Pennsylvania

Atlanta	Buffalo	Detroit	New York	St. Louis	Fort Worth
Baltimore	Chicago	Houston	Pittsburgh	Tulsa	Seattle
Boston	Cincinnati	Los Angeles	Cleveland	San Francisco	Philadelphia

Say you saw it in The OIL WEEKLY

SUPREME oil field power in West Texas is ELECTRIC

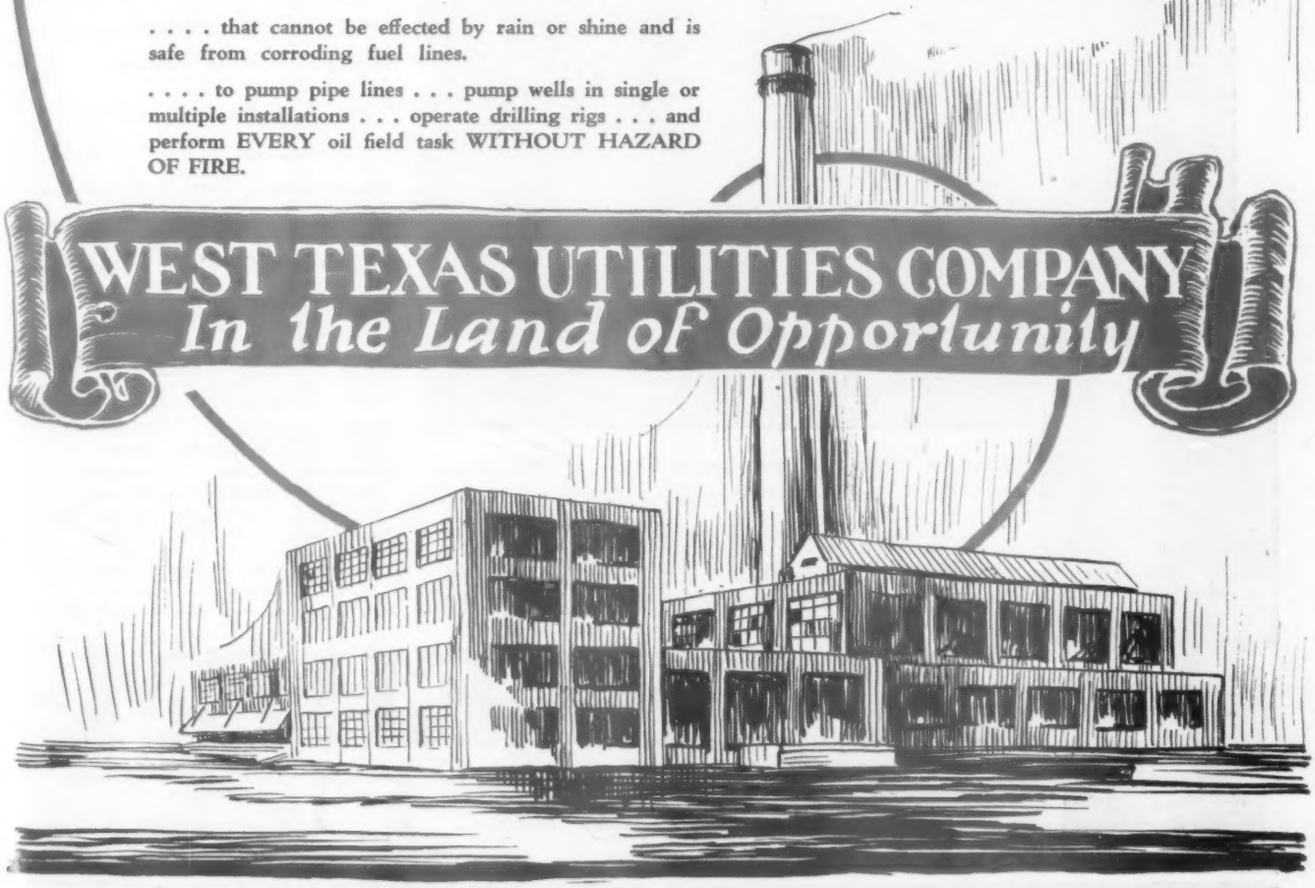
DURING THE FIRST SIX MONTHS of 1928, the use of ELECTRICITY in West Texas oil fields shows an increase of approximately 50%—BECAUSE actual investigation has proven to those progressive operators that ELECTRIC POWER is CHEAPER than any other form of power—even including waste gas which may be had for the piping.

ELECTRICALLY DRIVEN equipment is less costly to maintain—slower to depreciate—more dependable in operation—requires less attention — and can be started or stopped on a moment's notice. These are vital factors that have caused the majority of the larger oil companies to turn to ELECTRIC POWER just as rapidly as our extensive expansion program brought ELECTRICITY within reach of their holdings.

. . . . and 2000 miles of "high lines" insure DEPENDABLE service always . . . . . .

. . . . that cannot be effected by rain or shine and is safe from corroding fuel lines.

. . . . to pump pipe lines . . . pump wells in single or multiple installations . . . operate drilling rigs . . . and perform EVERY oil field task WITHOUT HAZARD OF FIRE.



WEST TEXAS UTILITIES COMPANY
In the Land of Opportunity

First of all . . . *good steel*

Bessemer Converter in operation in one of the plants of Bethlehem Steel Company.

The new pipe mills of Bethlehem Steel Company are equipped with modern machinery, and their operation closely supervised by men of long experience. But these advantages would count for little if it were not for the fact that this Company uses in the manufacture of Bethlehem Pipe the most suitable grade of steel that can be produced.

IF there is one thing above another that is necessary in making quality steel pipe it is good steel. There is no substitute for it.

Bethlehem Steel Pipe is made by an organization with more than half a century of experience in producing every kind of steel for almost every conceivable use. Steel used in the manufacture of Bethlehem Pipe is made especially for the purpose, to formulas developed by this Company's Metallurgists. It is the most suitable steel for pipe manufacture that it is possible to produce.

This Company manufactures Bethlehem Steel Pipe of Bethlehem Steel, and stands back of the finished product without any reservation whatever.

BETHLEHEM STEEL COMPANY

General Offices:
Bethlehem, Pa.

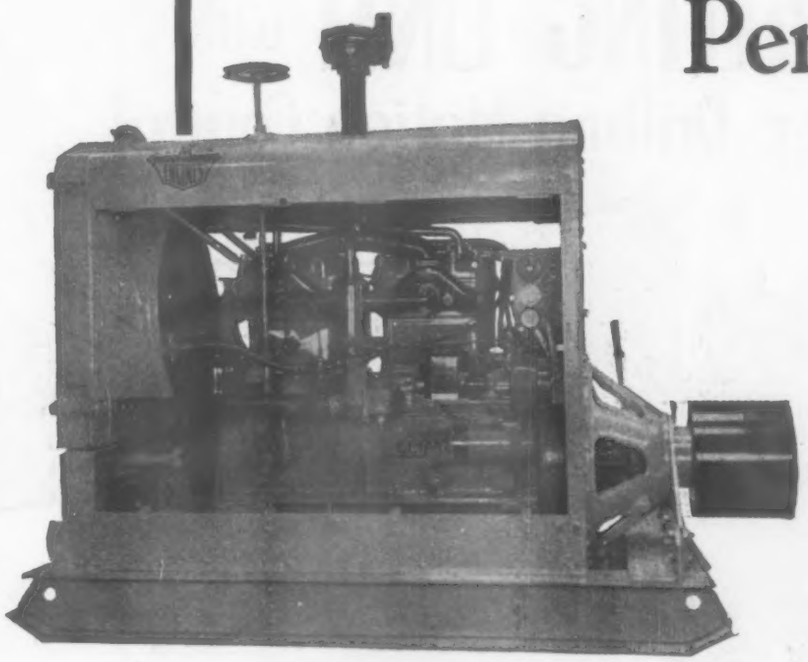
District Offices:

New York	Boston	Philadelphia
Baltimore	Washington	Atlanta
Pittsburgh	Buffalo	Cleveland
Detroit	Chicago	Cincinnati
St. Louis	Los Angeles	San Francisco
Honolulu	Seattle	Portland

Bethlehem Steel Export Corporation
25 Broadway, New York City
Sole Exporter of our Commercial Products

BETHLEHEM STEEL PIPE

Assuring Even Better Drilling Performance for 1929



THE CLIMAX Paymaster Junior Drilling Engine that has become famous for its drilling economies and trustworthiness can assure even better drilling performance for 1929 and years to come.

It has been improved where improvements count most in giving you the kind of trouble-free drilling service you would expect from the leader in the field.

The extra large clutch of improved design and the clutch shaft of proportionate strength defeat breakage and wear. In addition, the strengthened frame is built to stand the "gaff" — it's sturdier.

And added to these improvements you get a drilling unit fully equipped for work with electric starter, generator, battery, telegraphic control, gas and gasoline carburetor, turnbuckles — even a kit of tools.

The Climax Paymaster Junior is the kind of drilling unit that can make your machine drilling safer and more profitable. Ask for the "low down" on this unit at your first opportunity.

CLIMAX

Trade Mark Reg. U. S. Pat. Off.

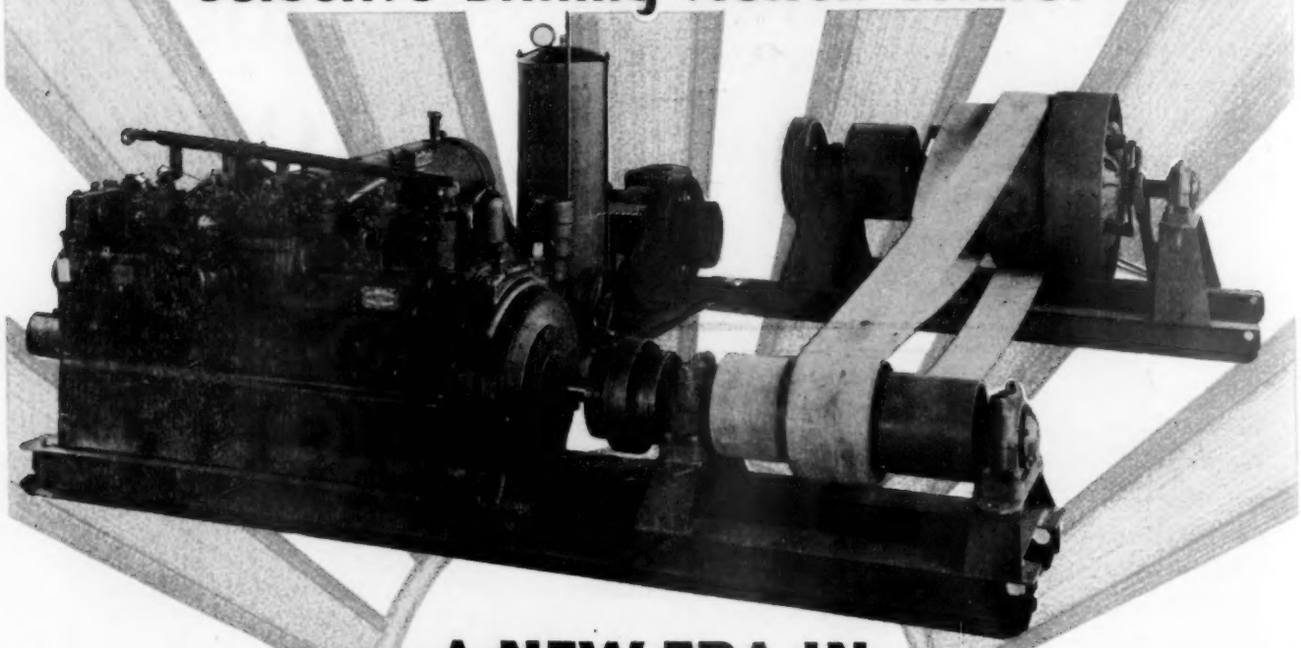
CLIMAX ENGINEERING COMPANY
75 W. 18th Ave., Clinton, Iowa

DISTRIBUTED BY

THE NATIONAL SUPPLY COMPANIES

NSCO

F-M. PORTABLE DIESEL DRILLING UNIT with Selective Drilling Motion Control



A NEW ERA IN CABLE TOOL DRILLING!

The FAIRBANKS-MORSE Portable Diesel Drilling Unit has inaugurated a new era in cable tool drilling by making possible hitherto unknown economy, speed and convenience.

This unit introduces the amazing fuel economy of full Diesel engine combined with a perfect drilling motion obtained through an ingenious Selective Drilling Motion Control which enables the operator instantly to vary the motion to suit varying drilling conditions.

The F-M Diesel Drilling Engine has plenty of power and flexibility for handling all drilling operations. Made in 4 and 6 cylinder sizes, direct connected to a 2-speed Drilling Countershaft, gearless, reversible, with air-cooled disc clutches, Timken tapered roller bearings, and independent neutral brake. Ask about the remarkable performance records being made by this unit in different states.

"If CONTINENTAL Sells It, There Is No Better"

The Continental Supply Co.

General Offices: St. Louis
Export Office: 74 Trinity Court, New York
London Office: 316-317 Dashwood House, Old Broad St., E. C. 2
The Continental Supply Company, Ltd., 411 Lancaster Bldg., Calgary, Alberta, Canada

CONTINENTAL

Say you saw it in The OIL WEEKLY

INDEX TO ADVERTISERS

Acme Fishing Tool Company.....
J. S. Abercrombe Company.....
Ajax Iron Works.....
Alco Oil Tool Company.....
Allis-Chalmers Manufacturing Company 14
Allsteel Products Manufacturing Co. ..
Alten's Foundry & Machine Works..
Aluminum Company of America.....
American Association of Petroleum Geologists 96
American Cable Company.....
American Hammered Piston Ring Co. 54
American Iron & Machine Works....
American Manufacturing Company...
American Telephone & Telegraph Company . . ..
American Well Works..... 90
Andrews Steel Company.....105
B. K. Appleman .....
Paul Arbon & Company.....
Ash Grove Lime & Portland Cement Company . . ..
Askenia-Werk, A. G. .....
Athey Truss Wheel Company.....
Axelson Machine Company.....3rd Cover

B. & A. Specialty Company.....
Baash-Ross Tool Company.....
Baker Casing Shoe Company.....
Baldwin Chain Company.....
Barber-Greene Company .....
William S. Barnickel & Company..... 96
Bartlett Hayward Company.....
Bartlesville Supply Company.....
Beaumont Iron Works.....
Beebe Brothers .....
Bessemer Gas Engine Company..... 4
Ben Milam Hotel .....
Bethlehem Steel Company..... 18
Boykin Machinery & Supply Company
Braden Steel Corporation.....
The Brewster Company..... 45
Bridgeport Machine Company.....
Broderick & Bascom Rope Company.. 65
Buckeye Traction Ditcher Company...
Buda Company .....
Buffalo Bolt Company.....
Burns Tool Company .....
Butler Manufacturing Company.....
A. M. Byers Company..... 85
Byron Jackson Pump Company.....

Cameron Iron Works 22
Chain Belt Company.....60-61
Chicago Bridge & Iron Works.....
Chicago Pneumatic Tool Company...
Chisholm-Moore Manufacturing Co....
Clark Brothers Company..... 9
Climax Engineering Company..... 19
Colona Manufacturing Company.....
Columbia Nut & Bolt Company.....
Columbian Steel Tank Company.....
Continental Motors Corporation.....
Continental Supply Company..... 20
Cook Paint & Varnish Company.....
Fred E. Cooper.....
Crescent Belt Fastener Company.....
F. M. Crowell Company.....
Cyclone Fence Company.....

D. & B. Pump & Supply Company...
Darby Petroleum Company.....
Darling Valve & Manufacturing Co...
E. M. Dart Manufacturing Company..
Diamond Drill Carbon Company..... 90
Drane-Humphrey Company, Inc. .....

Economy Pump & Oil Tool Company
E. H. Edwards Manufacturing Co.... 91
Electric Controller Manufacturing Co.
Elliott Core Drilling Co.....2nd Cover
Emsco Derrick & Equipment Company 77

Fenwick-Reddaway Manufacturing Co.103
First National Bank of Tulsa.....
Fort Worth Laboratories..... 98
Franklin Valveless Engine Company..
Frick-Reid Supply Corporation..... 71

Gardner-Denver Company 83
Gasco Pump & Burner Manufacturing Company 3
General Electric Company.....
B. F. Goodrich Rubber Company.....
H. P. Gott Manufacturing Company.. 88
Gray Tool Company.....
Guiberson Corporation 47
Gulf Caribbean Steamship Company...
Gulf Coast Engineering Company.....
Gulf Refining Company.....106
Gulf States Utilities Company.....

Halliburton Oil Well Cementing Co... 99
Erle P. Halliburton Company.....
Hardway & Cathey..... 98
F. O. Harrell .....
Haynes Stellite Company.....
Harrisburg Pipe & Pipe Bending Company . . . .
Harrisburg Pipe & Pipe Bending Company of Texas .....
Hazard Wire Rope Company.....
Heppenstall Forge & Knife Company..
Hercules Motors Corporation.....
Hercules Supply Company.....
Hercules Tool Company.....
Heydrick Mapping Company..... 98
Hill, Hubbell & Company.....
Hilton Hotels .....
Hinderliter Tool Company.....
Hirsch, Brown & Susman..... 98
Hotel Benjamin Franklin.....
Hotel McAlpin 105
Hotel Robert E. Lee.....
Charles N. Hough Manufacturing Co.
Houston Drafting Service.....
Houston Natural Gas Company.....
Houston Engineers .....
Houston Ready-Cut House Company..
Hughes Tool Company.....4th Cover
Humble Oil & Refining Company.....
Hyatt Roller Bearing Company.....

Imperial Royalties Company.....
International Cement Corporation....
International Derrick & Equipment Company . . ..
International Supply Company.....

Jarecki Manufacturing Company..... 10
Jensen Brothers Manufacturing Co. ...
S. M. Jones Company..... 94

Kennedye-Plumb Corporation .....
Kerotest Manufacturing Company....
Keystone Pipe & Supply Company.... 94

Landis Machine Company..... 5
Larkin & Company.....
Layne & Bowler Company..... 73
LeBus Rotary Tool Works.....
Robert E. Lee Hotels.....
Lincoln Electric Company.....
Linde Air Products Company.....
Link-Belt Company .....
Lucey Products Corporation.....
Ludlow Valve & Manufacturing Co.. 87

McCollum Exploration Company..... 98
J. H. McEvoy & Company.....
Maintenance Engineering Corporation. 96
Magnolia Petroleum Company.....
Maloney Tank Manufacturing Co..... 92
Manzel Brothers Company.....
Martin-Loomis Corporation 53
Martin Wagon Company.....
Phillip Maverick 98
Mead Morrison Company 86
G. & C. Merriam Company.....
Merrick & Longbottom.....
Metric Metal Works..... 75
Miller Combination Bailer & Pump Company . . ..
Robert J. Miller Company.....
Mission Sales Company..... 8
M. K. T. Railway .....
Lee C. Moore & Company..... 49
Murray Tool & Supply Company.... 59

National Petroleum Engineering Co...
National Supply Companies..... 93
National Tank Company.....
National Transit Pump & Machine Company 81
National Tube Company.....
Norris Brothers .....
Norvell-Wilder Hardware Company... 13
R. D. Nuttall Company.....
Nye Tool & Machine Works.....

O'Brien Steel Construction Company..
O. C. S. Manufacturing Company.....
Oil Well Supply Company..... 24
Oklahoma Gas & Electric Company...
Osage Indian Agency .....
Oxweld Acetylene Company..... 12

Parkersburg Rig & Reel Company.... 69
Patterson-Ballagh Corporation.....6-7
Pattin Brothers Company.....
Peden Iron & Steel Company..... 92
Penberthy Injector Company.....
Petroleum Engineering University....
Petroleum Rectifying Company.....
Pittsburgh Equitable Meter Company..
Pittsburgh Steel Products Company... 63
Portable Rig Company.....
Pratt & Whitney Company.....
Price, W. A. .....
Prest-O-Lite Company .....

Reading Iron Company 16
Reed Roller Bit Company.....
Regan Forge & Engineering Company
Joseph Reid Gas Engine Company.....
Republic Supply Company.....
Republic Iron & Steel Company.....
Rhode Island Fittings Company.....
Rollway Bearing Company.....

Safety Pulling Machine Company.....104
Schroeder Products & Mfg. Co. .....
J. E. Shaffer Company.....
Shaffer Specialty Company.....
Shaffer Tool Works.....
Sinclair Refining Company.....
Skelly Oil Company.....
S-K-F Industries 79
A. O. Smith Corporation.....
Smith Separator Company..... ... 97
Smith Bros. ....
H. C. Smith Manufacturing Company
Howard Smith Company .....
South Chester Tube Company.....
Southern Blue Print & Supply Co.... 98
Southern Engine & Pump Company... 94
Southern Mill & Manufacturing Co...
Southern Pacific Lines.....
Spang & Company.....
Spang Chalfant & Company.....
Standard Steel Works.....
Stanley Belting Corporation.....
Star Drilling Machine Company.....
Jesse R. Stone..... 98
Sullivan Machinery Company.....

Taubman Supply Corporation.....
Templeton, Kenley & Company.....
Texas Creosoting Company.....
Texas Cyclone Fence Company.....
Texas-New Mexico Power Company..
The Texas Company.....
Texas Power & Light Company.....
Timken Roller Bearing Company.....
Texas Sand & Gravel Company..... 98
Titusville Iron Works..... 11
Edgar Tobin Aerial Surveys.....
Traction Machine Company.....
Trimont Manufacturing Company.....
Trumble Gas Trap Company..... 98
Twin Disc Clutch Company.....
Tyler Tube & Pipe Company..... ...103

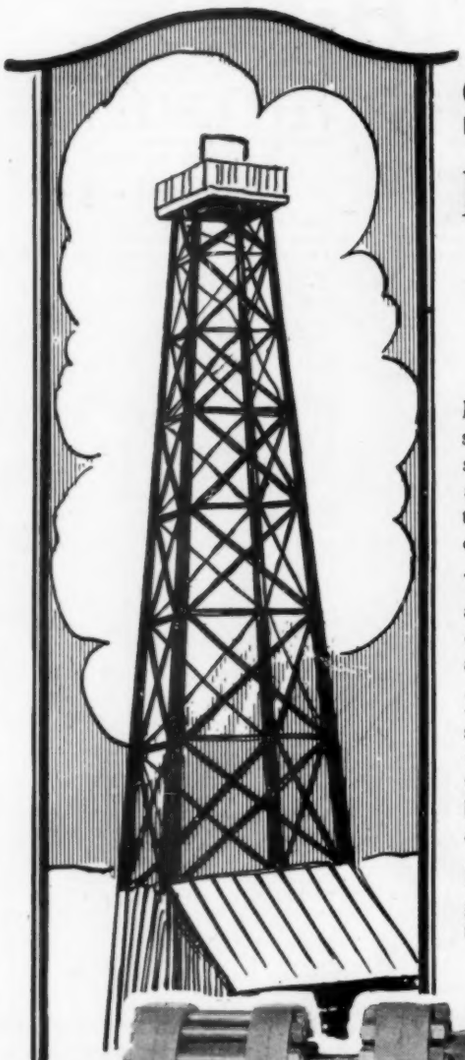
Union Manufacturing Company.....
Union Wire Rope Corporation.....
United Iron Works.....
United States Torpedo Company.....

Victaulic Company of America.....
The Vez Company.....

Ward Chemical Company.....
Waukesha Motor Company.....
C. W. Webster .....
John F. Weinzierl 98
Roy O. West .....
Wertzberger Derrick Company.....
Westinghouse Electric & Manufacturing Company 95
Westcott & Greis .....
Wichita Falls Motor Company.....
West Texas Utilities Company..... 17
Wickwire-Spencer Steel Company..... 67
Wico Electric Company.....
Wieman-Kemmerer-Wright Company..
J. H. Williams & Company..... 15
Williamsport Wire Rope Company.....
Wilson Oil Tools Corp. .....Front Cover
Wilson-Snyder Manufacturing Company
Wilson Supply Company.....
W-K-M Company . . ..
T. T. Word Supply Company..... 89
Wright Manufacturing Company.....

Yale & Towne Manufacturing Co....103
Young Engineering Corporation.....

Equip All Your Wells with the New C-I-W STEAM OPERATED BLOW-OUT PERVENTER



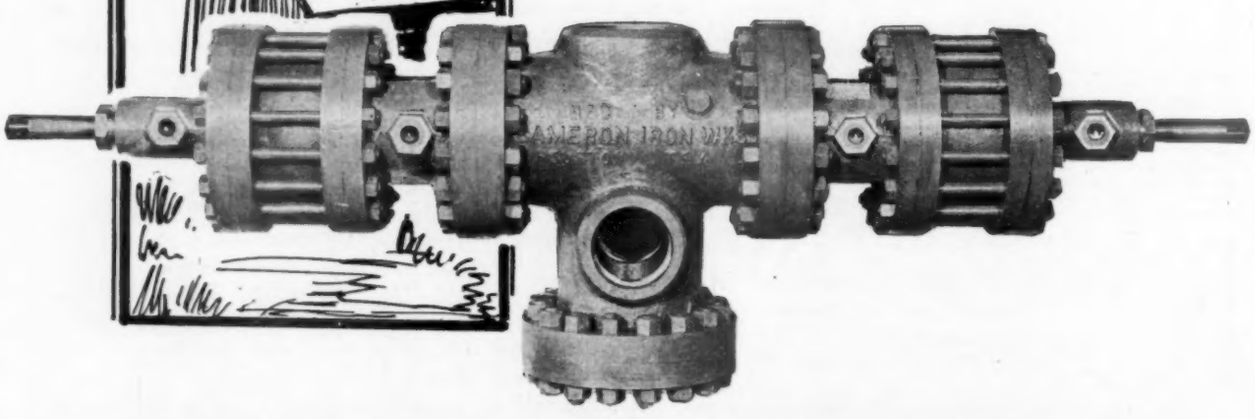
It is Swift - - Certain Leak-Proof

Being closed by steam, it is instantaneous in closing and safer in operation due to the remote control made possible by one double acting valve which can be located at any safe and easily accessible distance from the well. With this one valve the preventer may be instantly opened or closed at will.

The rams with their patented packing never fail to operate and close securely around the drill stem. The patented packing in the rams is designed to become tighter as the pressure increases.

In addition to the steam pressure, manually operated lock screws provide extra pressure of the rams against the drill stem, also assuring you of being able to close the preventer manually, if for any reason the pressure is off. The body being cast in one piece is without welds or seams to crack and leak.

Before leaving the plant each preventer is tested and guaranteed to withstand 2500 pounds pressure per square inch.



CAMERON IRON WORKS

MFGRS. OF OIL WELL SUPPLIES & FISHING TOOLS

HOUSTON, TEXAS

© CIB 15295

JAN -7 1929

Volume 52, No. 3 *January 4, 1929*

The OIL WEEKLY

Edited Weekly at Houston, Texas SPENCER W. ROBINSON, *Editor*

TABLE OF CONTENTS

Features

YEAR CLOSES WITH PRODUCTION AT PEAK 25
By H. J. Struth
U. S. PROPORTION OF WORLD OUTPUT DECLINES DURING 1928 27
By H. J. Struth
TEXAS DIVISION DIRECTORS TALK CONSERVATION PLANS 29
SPREAD OF COOPERATIVE SPIRIT SEEN AS YEAR'S BEST ACHIEVEMENT 30
By E. B. Reeser
NEW EDWARDS LIME FIELD NEAR LULING BECOMING BUSY SPOT 31
By Jack Logan
OKLAHOMA WELL AVERAGE DOWN AT MID-YEAR CHECK 34
By Wallace Davis
IT IS HARD TO IMAGINE HAULING MUD TO AN OIL FIELD 36
By L. G. E. Bignell
UNION HAS EFFICIENT GAS LIFT PLANT AT RICHFIELD 39
By Brad Mills
THIS OKLAHOMA LEASE IS EXAMPLE OF REAL OPERATING ECONOMY 41
By Wallace Davis
SECOND OKLAHOMA CITY TEST NEARS GAS SAND 43
By Warren Baker
YATES FIELD WIDENED AT CENTER; WELL MAKING 400 BARRELS HOUR 44
By H. H. King
DECLINE TENDS TO OFFSET NEW WELLS AT SANTA FE SPRINGS 51
By Brad Mills
WHO WOULD STEAL NITRO-GLYCERINE? 55
By Grady Triplett
TWO GREAT FIRES 56
By George Blardone
GOVERNMENT REPORT GIVES DATA ON FUEL OIL CONSUMPTION 64

Departments

UNITED STATES PRODUCTION—A. P. I. FIGURES 50
COMPLETIONS FOR THE PAST WEEK IN ALL U. S. FIELDS 72
PERMITS GRANTED FOR NEW WELLS 78
WILDCAT DRILLING REPORTS FROM ALL IMPORTANT AREAS 82
SQUEAKS FROM THE BULL WHEEL 104
CRUDE OIL PRICE QUOTATIONS 68
PERSONAL MENTION 48
GULF COAST NEWS 46
MOUNTAIN STATES NOTES 62

Published Weekly By GULF PUBLISHING COMPANY
Copyrighted, 1928

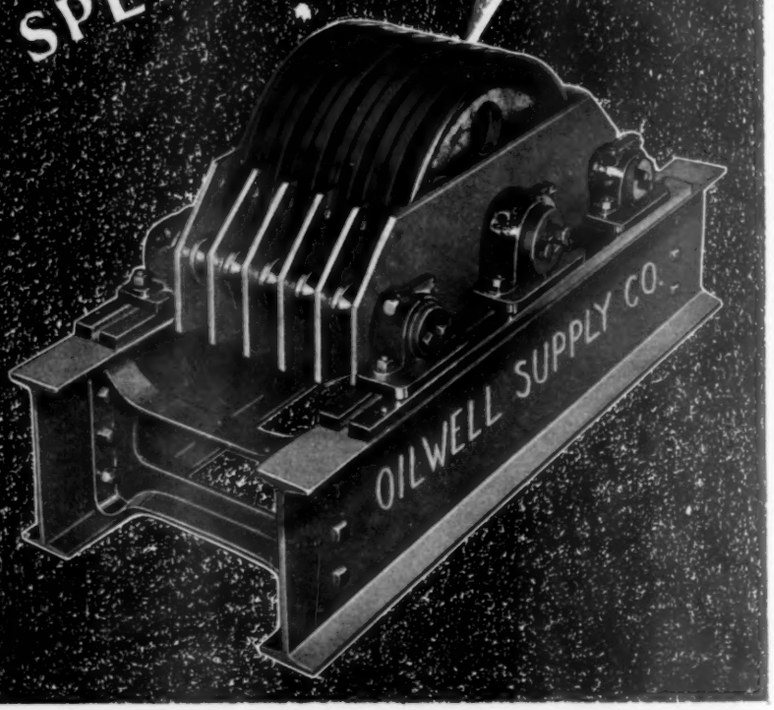
R. L. DUDLEY, *President* — A. L. BURNS, *General Manager* — SPENCER W. ROBINSON, *Editorial Director* — J. KENT RIDLEY, *Managing Editor*

Office of Publication: 3301 Buffalo Drive, Houston, Texas

NEW YORK: Room 408-409, 250 Park Avenue, R. P. Swinsky, Manager. PITTSBURGH: 510 Park Bldg., W. W. Pigue, Manager. CHICAGO: Room 520, 624 S. Michigan Ave., O. R. Waller, Manager. LOS ANGELES: 416-417, Haas Bldg., Wm. V. Gross, Manager. TULSA: 913-916 Hunt Bldg., J. F. Carter, Jr., Manager. FORT WORTH: 203 W. T. Waggoner Bldg., H. H. King, Manager. Issued Friday of each week. Single copies 10 cents. Subscription price, Domestic $1.00 a year, Foreign $2.00 a year. Subscription restricted to those engaged in the producing and pipe line branches of the oil business or the manufacture and distribution of oil field supplies. Advertising rates on application.

NEW

BUILT TO STAND THE LOAD AND THE SPEED!



IT'S FROM "OILWELL"

Each bearing of the "OILWELL" Crown Block is lubricated through an individual channel in the pin. Proper lubrication is thus assured.

Roller Bearings in the sheaves operate in sleeves and casings, preventing wear on the stationary pin.

Manganese steel sheaves with rope grooves ground to A. P. I. standards prevent excessive wear on the line.

The whole unit is adjustable lengthwise on the beams by means of patented "OILWELL" slides. Perfect alignment of Crown Block, Travelling Block, Hook and Swivel is thus made possible under all operating conditions.

OIL WELL SUPPLY COMPANY

NEW YORK—LOS ANGELES—PITTSBURGH, U.S.A.—SAN FRANCISCO—TAMPICO—LONDON

WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Year Closes With Production At Peak

Sharp upturn in Oklahoma and further gains in Texas and California brings daily output above high mark established in 1927

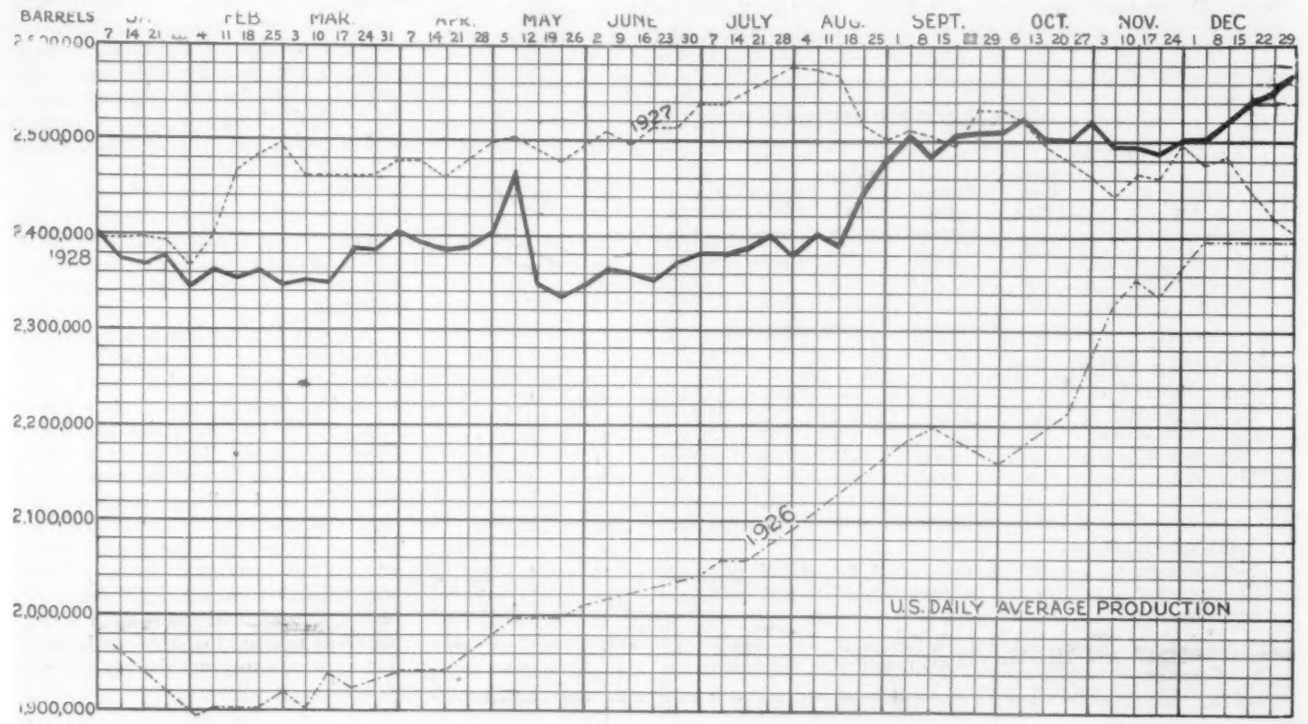
By H. J. STRUTH
Petroleum Economist

A SUDDEN, sharp upturn in the daily average production of Oklahoma, combined with further gains in Texas and California marked the close of 1928 as decidedly unfavorable. During the week ended December 29, Oklahoma registered a gain in daily average production of 18,500 barrels, a decided reversal from the apparent improvement that seemed to be getting under way during recent weeks. Most of this gain is attributed to the St. Louis pool, which showed an increase of 7650 barrels, and to the opening up of new territory near Oklahoma City, which accounted for an additional gain of 5700 barrels. Another disturbing factor in Oklahoma was the Maud district, which showed a gain of more than 8000 barrels in the daily average for the past week. This turn of events in Oklahoma suggests the immediate extension of proration to the newer areas; otherwise, all that has been gained by proration efforts of the past will be wiped out.

Yuletide holidays and the absence of many oil company officials from their respective headquarters has made it exceedingly difficult to obtain official production figures for all of the producing areas. An unofficial estimate for California reveals another gain in the output of that state during the last week of 1928. This gain may amount to as much as 12,000 barrels, but it has been conservatively stated at 10,400 barrels. In summing up all of the field information, official and unofficial, it appears probable that the total daily average production for the week ended December 29, aggregated about 2,575,650 barrels, a gain over the preceding week of 24,900 barrels. The areas which registered gains in production during the last week of the year were Oklahoma, Kansas, West Central Texas, West Texas, Southwest Texas, Coastal Texas, North Louisiana, Coastal Louisiana and California. These gains aggregated 41,600 barrels. Declines were reported in Texas Panhandle, North Texas, East Central Texas, Eastern fields and the Rocky Mountain area. The declines aggregated approximately 16,700 barrels.

When final official figures are made available, it is possible that the total daily average production for the week ended December 29 will stand at the highest level in the history of the industry. This means that, even in the face of proration during the past year, the national production is about 126,000 barrels more per day than it was a year ago. The fact that production has shown a steady rise during the past few months, ending at the highest point of the year, and possibly at the highest point in the history of the industry, augers a decidedly unfavorable outlook for at least the first five or six months of 1929. Reports from the various flush areas indicate that a vast amount of new drilling is under way, which is bound to result in continued gains in the national production curve during the next several months. Another unfavorable aspect is the apparent unwillingness of operators to cooperate in proration agreements. Here and there we hear reports to the effect that individual operators decline to carry out their agreements to restrict drilling. This fact, and the constant

UNITED STATES CRUDE PRODUCTION TREND



opening up of new wildcat territory is exerting a decidedly unfavorable influence upon the entire industry.

There is still an opportunity for the industry to correct its present situation and bring about a better state of equilibrium during the present year. Demand will undoubtedly show a considerable increase over last year, but whether the industry will be able to supply this increased demand at a profit depends entirely upon cooperative effort to prevent a continuation of excessive production.

Proration seems to be the only logical and sound method of controlling the producer's situation, but proration will not be successful until every individual operator involved will abide by the agreements made in his respective territory. "Putting one over" on the rest of the operators will not result profitably to the individual or to the group of operators bound by proration agreements. Sooner or later those who are continually "bucking the line" will find themselves selling their oil at prices which will force them to shut down entirely, or sell out their holdings at a loss.

Mid-Continent

The light oil market condition is far from a bright one at this time, and operators have given up all hope of any immediate change in the posted price. Light oil production in Oklahoma is increasing, with the outlook for larger recovery.

The Maud district new completions are offsetting the natural decline in the older fields of Seminole and the past week saw an increase in Greater Seminole production for the first time since the middle of October. Additional completions due at Maud should continue this condition. There are 103 rigs, locations and drilling wells at Maud, many of which are due for completion during January.

Indications are that the agreement among the majority of the operators in the Mission pool to withhold the starting of the second crop of wells there until February 20—or until the present drilling wells are completed on February 15—may not be entirely successful as one operator has failed to fall in with the others. His tract is in the center of the field and a 40-acre one. Ray Collins, umpire, is still hopeful of putting the proposed postponement of drilling over, but must get the entire group of operators to agree. In the meantime many tests now drilling at Mission are getting near the Wilcox sand, indicating that the majority of the tests will be ready for completion on February 15. Estimates on the potential production of the region have been materially lowered by practically everyone to 75,000 barrels daily, due to a large number of wells running low, and which may be failures. The majority of the tests finding the formations low are in the northwest edge. A few tests farther northwest are running higher, which may mean that there will be two producing structures located at Mission. If true, it may cause a complete revision of the potential production estimates in an upward trend.

The St. Louis field again reached a new peak during the past week, and now occupies a leading position among the future market factors of the state due to a north extension well in Section 18-7-5, which continues to hold its flow at 225 barrels hourly, indicating that it has tapped a major reservoir. Several offset tests are getting under way and a large number are expected to be drilling shortly. It will require approximately 75 to 90 days for the majority of these tests to reach the big pay.

At Oklahoma City operators are experiencing some difficulty in working out a shut down program satisfactory to all concerned. The proposal of Indian Territory Illuminating Oil Company and Foster Petroleum Company to shut in their large discovery well if other operations would be withheld, was blasted when Ramsey Petroleum Corporation refused such a plan. Several other plans were outlined but none adopted. There are several 10-acre tracts located on the northwest edge of the district, with townsite lots immediately beyond these. Owners are desirous of drilling on several of these, and this may result in the drilling of one well to 10 acres—at least in the immediate vicinity. These locations may not mean anything to the market as there is no way of telling at this time what chances they have of producing. It is hoped that operators will agree to drill but one well to 40 acres as originally planned to do. Several wildcat tests are being started in the district and will bear close watching. The Oklahoma City district is not an immediate factor because of the great depth necessary to go to reach the oil.

Group 3 refined oil market remained very quiet during the week, with very little spot business. Major refiners continue to quote U. S. Motor gasoline at 8½ cents average. Some report fair business at this price with others saying it is slow. A small amount of gasoline was moved out the past week for 7½ cents a gallon. Evidently some refiners desired to move some of their supply before the end of the year. Other grades of gasoline remained the same.

Kerosene was weaker with 41-43, water white grade, selling from 5¼ to 5½ cents a gallon.

Natural gasolines continue to grow weaker. Grade C is down to 6 cents a gallon flat, with BB at 6 to 6¼ cents; and B and AA at 7 cents. There continues to be a demand for the little A grade natural gasoline manufactured and it is holding at 8 to 8¼ cents a gallon.

Production in California has passed 700,000 barrels for the first time since the demoralizing period of overproduction several years ago, and with the 800,000 barrel mark possible, there is some cause for alarm. It is true that local consumption has increased rapidly and other outlets have been found, but if the overproduction continues there is sure to be a weakening of the crude market. California is dependent upon many factors which a few years ago did not seriously affect the situation one way or the other. Right now, the market is in a fairly healthy condition, but if storage continues to receive a surplus of light oil, there is a limit to the quantity which may be absorbed, while the time element must not be ignored. A very high flush production and a rapid drop will not upset the market, but a continued flow of light crude in excess of actual requirements will soon have a telling effect. There is ample storage for a big splash, but continued overproduction would give the refiners a surplus not needed for immediate consumption.

Santa Fe Springs is now the chief cause of the rapid rise of production. The field looks both good and bad from week to week, but the latest survey shows that the intermediate zone promises to offset any shortcomings the Buckbee sand may develop. The two formations together probably will yield fully as much oil as the most optimistic estimates indicated would come from the Buckbee sand before the intermediate zone was known. Deep sand production has passed 85,000 from a very few wells, and with more than 200 drilling wells nearing the deep sands, production is certain to jump sharply from week to week.

DETAILS OF CRITICAL FIELDS

Pool	Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Production Per Well	Rigs Up	Wells Drilling
WEST TEXAS—								
Hendrick	472	2,627,745	5,567	486	154,700	318*	3	66
Church & Fields	189	203,465	1,077	187	27,235	146	..	..
Gulf-McElroy. .	68	55,740	820	68	13,295	196	..	3
Yates	284	1,835,260	6,462	284	71,825	253	2	11
Totals	1,013	4,722,210	4,662	1,025	267,055	261	5	80
TEXAS PANHANDLE—								
Hutchinson Co..	1,133	548,950	485	1,007	28,145	28	11	23
Gray County....	307	127,065	414	297	21,785	73	10	45
Carson County..	181	59,370	328	157	5,680	36	3	11
Wheeler County	44	14,645	333	35	720	21	6	14
Moore County..	6	3,960	660	4	2,370	592	3	8
Totals	1,671	753,990	451	1,500	58,700	770	33	101
OKLAHOMA—								
Seminole	1,613	2,100,314	1,302	1,308	278,672**	213	34	232
St. Louis.....	313	347,698	1,110	284	139,661	492	11	74

* Production partially pinched.
** Maud and Mission districts partially pinched.

U. S. Proportion of World Output Declines During 1928

Proration responsible for a decline in American output of more than 14 million barrels; increases large in South America

By H. J. STRUTH
Petroleum Economist

A PRELIMINARY survey of petroleum production in the United States and the oil producing countries of the world, for the year 1928, reveals that the proportion contributed by the United States was approximately 69.5 per cent., as compared with 72.1 per cent. during 1927. Although the aggregate production of petroleum for the entire world amounted to about 1,275,886,000 barrels during 1928, an increase of 26,491,000 barrels over 1927, the output of the United States declined 14,463,000 barrels, aggregating about 886,666,000 barrels for the year.

While the year 1928 was considered unfavorable to producers, it is revealed that production and imports of crude was really slightly below domestic and foreign requirements during the past year. Perhaps the outstanding reason for this can be attributed to the adoption of proration in the flush producing areas. In view of the large above-ground supplies and enormous quantities of crude shut in, it is evident that proration played a big part in preventing what would otherwise have been a year of extreme overproduction. Although proration did not attain the limits prescribed in the critical areas during 1928, indicating that there is still much to be accomplished in coordinating the producing interests of the industry, it served to demonstrate the value of cooperative effort to restrict production in the flush areas. It has been variously estimated that the industry could easily have produced from 100,000 to 250,000 barrels more per day during 1928, if drilling had not been curtailed. If producers had been allowed to exploit the various flush areas of the country during the past year, there is no doubt but that the daily average output would have been at least 150,000 barrels greater than the actual results show. Thus, without proration agreements the national production would have aggregated about 942 million barrels instead of 887 million barrels. If such a condition had prevailed, it is a foregone conclusion that the market would have been seriously impaired, and the entire industry would have entered 1929 in a decidedly worse condition.

Preliminary Estimate of World's Petroleum Production for 1928

(In Thousands of Barrels)*

Country—	1926	1927	1928
United States	770,874	901,129	886,666
Russia	64,311	72,400	80,000
Mexico	90,421	64,121	47,000
Venezuela	37,226	64,400	105,000
Persia	35,842	36,800	37,300
Roumania	23,314	26,100	28,000
Dutch East Indies	21,242	21,400	21,500
Colombia	6,444	14,600	20,000
Peru	10,762	9,800	10,500
India	8,728	8,200	8,000
Argentina	7,952	8,700	8,800
Poland	5,844	5,800	5,600
Trinidad	5,278	5,200	6,200
Sarawak	4,942	5,000	5,200
Japan	1,900	1,700	1,700
Egypt	1,188	1,270	1,300
Germany	653	700	720
France	478	525	540
Canada	364	500	600
Ecuador	214	450	700
Czechoslovakia	150	140	140
Others	262	460	420
Total	1,095,934	1,249,395	1,275,886

*All 1928 figures except those for the United States estimated by Valentine R. Garfias of Henry L. Doherty and Company.

Many Changes

An analysis of petroleum production in the major producing areas of the world shows a number of material changes. Russia is beginning to become a more important factor each year, although in 1928 its rank was reduced from second place to third. Mexico, formerly the second largest oil producing country of the world, is steadily receding in rank as the output of that country consistently declines. Venezuela is rapidly becoming a most important factor as a future source of the world's oil supply. In fact, all of South America gives a definite indication that it will become the greatest oil producing area of the the world in the years to come. During 1928 the combined output of the important oil producing areas of South America aggregated 151 million barrels, or approximately 12 per cent. of the entire world's production. The remarkable strides being made in Venezuela alone indicates enormous future possibilities that promise to greatly exceed the peak production period of Mexico. Persia has not shown any appreciable gain in output, but is said to possess enormous future possibilities. Developments now under way in that country, particularly in Iraq, by the Anglo-Persian interests, indicate that we can expect a considerable gain in oil production there during the next few years.

If we take into account all of the present oil producing areas of the world, including the United States, and roughly calculate the quantities of petroleum on hand in the storage tanks of the world, plus the indicated quantities available from proven producing areas, it is not difficult to realize that the entire world is in a period of over-production. A few years ago, there was talk of a possible world shortage of oil and various world powers were at odds over their anxiety to control the exploitation of foreign oil concessions. Today, it is apparent that practically the entire world is abundantly supplied with petroleum, and the producing interests of world-wide, prolific areas are beginning to realize the necessity for coordination of effort to prevent demoralization of uni-

PRODUCTION IN OKLAHOMA AND TEXAS FLUSH AREAS—1928

Texas Panhandle	Production in Barrels
Hutchinson County	12,780,150
Gray County	7,906,650
Carson County	2,482,350
Wheeler County	308,950
Total	23,478,100
West Texas	
Crane-Upton Counties	25,824,350
Pecos County	22,041,600
Winkler County	57,505,200
Total	105,371,150

Oklahoma	
Seminole	18,364,700
Earlsboro	33,394,150
Bowlegs	23,991,900
Little River	25,051,600
St. Louis	18,809,700
Searight	5,208,950
Total	124,821,000
Recapitulation	
Texas Panhandle	23,478,100
West Texas	105,371,150
Seminole District	124,821,000
Total	253,670,250
Percentage of United States total produced by these three districts	28.6%—1927, 21%

versal oil markets. Far-seeing leaders of the industry, at home and abroad, realize the need for unified control of producing operations and it is believed that persistent effort in this direction will eventually meet with desired results. More and more, the oil producing interests of the world are beginning to realize that the best storage reservoir for oil is in the ground, and that it is not necessary to demoralize the oil markets by creating excessive above-ground surplus supplies. While petroleum has been termed "elusive" it must be conceded that it is only so when individual operators take unfair advantage of their neighbors. When the producing interests of the world reach a harmonious accord in respect to efficient drainage of proven oil sands, the entire petroleum industry will share a reasonable profit from its individual operations, instead of a loss.

According to the preliminary data presented herein, it is revealed that Texas is now the largest producer of petroleum in the United States. During 1928, the production of Texas increased more than 34 million barrels, reaching a total for the year of 251,624,000 barrels. Oklahoma, formerly the largest producer of the country, registered a decline of about 37 million barrels, which reduced its rank to second place in the nation's production. Oklahoma furnishes a conspicuous example of what can be accomplished by proration. Without this measure it is believed that the production of that state, in consideration of a huge potential supply in the greater Seminole area, would have greatly exceeded the output of Texas, causing a large increase in the national output for the year. While proration was placed into effect in West Texas, it is apparent that the desired results were not attained. As a matter of fact, the output of Texas during the closing months of 1928 was considerably in excess of market requirements. California's production was apparently only slightly higher than in 1927. Reports received from California at the close of 1928 indicate that there will be a continued gain in the output of that state during the first six months of 1929. Unless proration is adopted in California at an early date, it is evident that the entire industry will be faced with conditions approaching the chaotic stage in the near future. California and Texas furnish an example of the need for cooperative effort by the producers in their respective fields. If proration had been placed into effect in these two states during 1928, it is a foregone conclusion that the market structure would have shown material improvement. As a matter of fact, it was the excessive output of these two states that prevented a rise in the price of Mid-Continent crude during the fall of the past year.

United States Production by States—1928

Following is a preliminary compilation of United States Production for 1928, American Petroleum Institute figures, unrevised:

(Thousands of Barrels)

State—	1927	1928
Arkansas	40,005	31,933
California	231,196	231,552
Eastern States	40,448	40,409
Kansas	41,069	37,979
Louisiana	22,818	22,981
Mountain States	30,429	29,502
Oklahoma	277,775	240,684
Texas	217,389	251,624
Total	901,129	886,664

In an accompanying table, the production of Oklahoma and Texas flush areas during 1928 is shown. In comparing this data with similar data for 1927, it is noted that Winkler County, Texas, contributed practically 57 million barrels gain in the output of the West Texas area during 1928. This was by far the most prolific area of the entire state during the past year. In Oklahoma, there was a sharp decline in the output of Seminole, which receded from about 81 million barrels in 1927 to 18 million barrels in 1928. On the other hand, the production of Bowlegs and Little River showed sharp gains, while the St. Louis pool came into the limelight with a grand total of nearly 19 million barrels of additional oil. The aggregate output of these flush areas alone contributed 28.6 per cent. of the country's output of crude during the past year. This is a gain of more than 8 per cent. over the preceding year.

A preliminary check-up of completions in the various oil producing states for 1928 shows that there was a decline of nearly 1900, and 2000 less producers were completed. The number of gas wells completed showed a gain over 1927 of 183, while the number of dry holes was practically the same as in 1927. In view of the smaller number of completions, the percentage of dry holes showed a marked increase, standing at approximately 31 per cent. for 1928, as compared with 28 per cent. in 1927. During the early part of 1928, the aggregate initial production was lower than in 1927, but the latter part of the year witnessed a sharp gain in new production. The twenty-four-hour gauge

(Continued on page 48)

United States Field Statistics for 1928*

State—	Completions 1927	Completions 1928	Producers 1927	Producers 1928	Gas Wells 1927	Gas Wells 1928	Failures 1927	Failures 1928	Initial Production 1927	Initial Production 1928	Annual Production (a) 1927	Annual Production (a) 1928
Arkansas	330	322	170	136	36	38	124	148	16,188	59,667	40,005	31,933
California	937	699	830	595	8	...	99	104	522,328	674,030	231,196	231,552
Eastern	7,667	7,047	4,944	4,176	1,492	1,522	1,231	1,349	85,809	110,266	40,448	40,409
Kansas	1,128	976	518	434	66	96	544	446	91,081	94,424	41,069	37,979
Louisiana	841	768	357	197	135	222	349	349	114,163	86,716	22,818	22,981
Mountain States	500	576	351	385	32	59	117	132	140,663	112,400	30,429	29,502
Oklahoma	4,341	3,599	2,365	1,879	494	453	1,482	1,267	1,832,791	1,042,842	277,775	240,684
Texas	6,557	6,422	3,861	3,525	323	379	2,373	2,518	1,825,223	4,554,867	217,389	251,624
Total	22,301	20,409	13,396	11,327	2,586	2,769	6,319	6,313	4,628,246	6,735,212	901,129	886,664

*December Figures estimated.
(a) Thousands of barrels.

Texas Division Directors Talk Conservation Plans

Resolution adopted praises work of Texas Railroad Commission in aiding control of oil flood in West Texas section

DALLAS, Texas.—A picture of the oil business showing that drastic action is needed in the further curtailment of production was drawn by speakers at a called meeting of the board of directors of the Texas Division of the Mid-Continent Oil & Gas Association held here Thursday, December 27.

Following addresses by President Reeser of the American Petroleum Institute, J. Edgar Pew, and W. S. Farish, both former presidents of the A. P. I., James A. Veasey, a member of the committee appointed by the American Bar Association at the request of the government to suggest a conservation procedure, and W. N. Davis, president of the Mid-Continent Oil & Gas Association, Mr. Davis made known his Texas appointments for the Committee of Nine requested by the American Petroleum Institute at its recent Chicago meeting. The Texas members of this committee will be W. S. Farish, president, Humble Oil & Refining Company, Houston; W. H. Francis, vice-president and general counsel, Magnolia Petroleum Company, Dallas, and J. S. Bridwell, president, Bridwell & Heydrick Oil Company, Wichita Falls. Oklahoma and Louisiana-Arkansas appointments will be announced later.

All of the speakers declared that it is imperative that emphatic steps be taken to hold down an over-production which is dumping the nation's oil resources on a market that cannot possibly assimilate it.

W. S. Farish declared that if the price of crude was half what it now it is would not even appreciably increase consumption. With fuel oil selling at 60 cents per barrel at Gulf ports, at $1.05 in New York and at any price in the interior, he said that consumption during the past year has increased only four per cent. on fuel oil.

Mr. Farish gave it as his opinion that chaos will follow unless something is done and agreed with Mr. Reeser in his statement that permissive legislation seems at this time the best solution of the problem.

Mr. Reeser pointed out that the oil industry is the only industry which has no control over its product. The coal mining company can cut the production of coal when the demand is less than stocks above ground, and do that without having its source of supply depleted. The oil company on the other hand cannot reduce its production when the supply is more than the market can take, because a neighbor may be draining the property, or a royalty-owner may insist on continued over-production.

All that the oil industry needs is to be placed in the same position with other industries, he said, and concluded that the "pool is the unit of competition in the oil business, not the company or the lease in the pool."

Other speakers agreed with him, and in his talk Mr. Farish took pains to emphasize this point which, he said, most people have failed to realize.

The oil industry, declared Mr. Reeser, has at its command a wonderful array of statistics on its own operations, but these statistics are now digested or followed as they should be.

Mr. Veazey talked at length on the work of the bar association, pointing out that the American Bar Association did not presume to interfere in the oil industry, but that the original appointment of the American Bar Association committee to suggest remedial legislation or means of legally curtailing over-production came from the executive department of the federal government itself. He told of the work now under way.

On motion of J. Edgar Pew the directors passed a resolution commending the Texas Railway Commission for the manner in which it has handled the over-production and conservation situation in Texas.

A resolution dealing with a special lease form which will permit pooling was passed unanimously.

W. B. Hamilton of Wichita Falls, representing the Oil & Gas Bureau of the West Texas Chamber of Commerce was invited to discuss the situation with reference to the leasing of University of Texas lands and declared that a change in the law authorizing the sale of the leases to the highest bidder under proper conditions will save the university millions of dollars.

The meeting was attended by 35 directors and officers of the Texas division, John F. O'Donohue of Wichita Falls, president of the Texas division, presiding.

Dallas, Texas.—The idea that a tariff on crude oil imports will aid the American oil producer is a fallacious one, E. B. Reeser, president of the Barnsdall Oil Company and president of the American Petroleum Institute declared here last week while attending a meeting of te directors of the Texas Division of the Mid-Continent Oil & Gas Association.

A tariff on oil would deal a blow at American oil exports which would react on every producer in the country he said.

The first effect of such a tariff, asserted Mr. Reeser, would be a consequent increase in the price of refined oils to the point where the American refinery could not compete with refineries which undoubtedly would be located on foreign soil.

He said that as exports exceed imports, oil domestically produced would then be thrown back because of its restriction of market.

At a meeting of the Board of Directors of the Texas Division of the Mid-Continent Oil & Gas Association, held in Dallas, Texas, Thursday, December 27, on motion of J. Edgar Pew, seconded by John R. Suman, the following resolution was adopted and the secretary instructed to forward a copy to the Railroad Commission of Texas:

"Whereas, during the past year unprecedented situations within the oil industry have arisen in the State of Texas, whereby, at times, great economic and physical waste of one of our country's most important and irreplacable natural resources have threatened, and

"Whereas, experience in the industry has shown that these evils can be largely eliminated by lawful methods of cooperation, and,

"Whereas, the Railroad Commission of the State of Texas, has worked and cooperated with those who have endeavored to formulate equitable plans whereby these situations could be met and eliminate this unnecessary waste.

"Therefore, it is resolved by this Board of Directors, that a vote of thanks and the appreciation of this body be extended the members of the Railroad Commission of the State of Texas, for their untiring efforts, and, the consideration and cooperation given the industry, in its efforts to reduce waste and thus confer unestimable benefits upon all branches of the industry as well as the public."

Spread of Cooperative Spirit Seen As Year's Best Achievement

By E. B. REESER
President American Petroleum Institute

THE year 1928 will go down into petroleum history as a year in which more progress was made toward stabilization through cooperative effort, than ever before. Perhaps the most definite step in this direction was the adoption of a code of ethics by the board of directors of the American Petroleum Institute. This action was taken after an exhaustive study by regional committees composed of many of the leaders in the distributing department of the industry. These committees represented approximately 90 per cent. of the investment in distributing facilities in the United States. It is through this branch of the petroleum industry where contact is made with the public. The approval of this code by the Federal Trade Commission will correct an abuse for which the industry is receiving well deserved criticism.

As a result of the adoption of saner operating schedules, the refining division of the industry will show improved earnings over the previous year. Refining capacity is so much in excess of demand that only by curtailing runs, can this branch of the industry hope to receive any returns on its investment.

The cooperative spirit has spread through the producing department to a remarkable extent. Unfortunately, the success of voluntary cooperation is dependant on unanimous concurrence. It is like a strong chain with one weak link; the size of the link does not make much difference. In important instances it has been impossible to secure unanimous action because of the selfish or narrow viewpoint of a small minority of operators. Perhaps in some cases, failure has been due to fear that the anti-trust laws would be violated. As a result of the action of a comparatively few; production is incerasing at an alarming rate. Wells now drilling in proven territory will bring the total production to a point far in excess of any previous figures, and greatly in excess of consumption.

With the exception of a short period, stocks above the ground have increased persistently year by year over the past 10 years. They are now at the staggering total of 600,000,000 barrels of crude and refined products. Wildcatting is being carried on at an unprecedented pace. Leaders in the industry have reached the definite conclusion that this economic waste must be stopped. The ultimate cost will become a burden on the public.

The Conservation Committee of the American Bar Association, after very careful consideration, will shortly offer proposed state legislation which will, if adopted, bring about the cooperative development of new oil and gas pools and stop the present wasteful competitive drilling of new oil pools. This legislation will enable the industry to balance supply and demand. The legislation will be of such character that a majority of opeartors in any pool may—if they so elect—ask the state to take such action (under the proposed laws) as seems necessary to properly safeguard our natural resources. A majority of the leaders of the industry favor such legislation and as a result of this attitude, I look forward to the new year with confidence.

Suit Will Stop Auction of Texas University Land

AUSTIN, Texas.—The political furor growing out of the question of offering certain University and State leases in West Texas for sale January 2 was at the boiling point Tuesday, and suit, being entered by Attorney General Claude Pollard, in district court to obtain an injunction preventing State Land Commissioner J. T. Robison from holding the proposed sale until after the legislature meets January 8, was expected to be filed.

The widely expected call of a special session of the legislature by Governor Dan Moody to rule new means of handling the State and school lands before the date of the sale failed to come, although the governor expressed his stand on the question as being flatly against the sale of any such leases at this time. He explained that his refusal to call the special session was not made as a compromise but that he did not see the advisability of calling a special session six days prior to the regular convening date of the legislative body.

Leases aggregating 103,000 acres were originally outlined by Commissioner Robison for sale on January 2, but late last week this amount of acreage had been cut to that portion of the acreage which had actually been requested offered, an amount approximating 49,980 acres. The remainder of the 103,000 acres, it was stated, had been removed from the January 2 sale offering.

Commissioner Robison stated his views of the matter as follows: "When the land commissioner has received such information as to satisfy him that there is a demand for an opportunity to buy oil and gas rights in University land and a specific demand is made that certain tracts be advertised, and oil and gas leases thereon be offered for sale, he has no discrimination but to proceed under the orderly process of the law to comply with the demand by listing the land, fixing a date when it will be subject to sale, making the necessary advertisement, and distributing the lists."

The board of regents of the University of Texas, owner of the 1,500,000 acres of land yet unleased, protested that the sale had not been properly advertised in the first place. The board further argued that the sale of land at this time would only result in more drilling in West Texas, which, in turn, would probably cause further overproduction on top of the present crude flush menace. It held that the present methods of leasing provided for in the law of 1925, which states that the state leases are to be sold by sealed bidding, will result in less income in the form of lease bonuses. It plead for the open bidding at public auction as did the Oil and Gas Bureau of the West Chamber of Commerce.

The Oil and Gas Bureau of the West Chamber of Commerce further protested against the present state law governing the development of the acreage after it is leased. It advises amendment of this law to provide for the grouping or pooling of a reasonable number of acres into one unit development, and having the discovery of oil or gas in paying quantities on one of the leases in the group fulfill the drilling obligations. Further development of the unit could be assured, the suggestion continued, by provision in the lease contract along the line of a reasonable development clause as is provided in the ordinary oil and gas lease contract which are used by private citizens in leasing their lands. The Oil and Gas Bureau is of the opinion that, without such an amendment, that many who are able to lease the land and develop it will not be interested in bidding very strongly on the leases. It is of the opinion also that such a lease contract is necessary as a reasonable conservation measure.

Operations in northern end of Salt Flat field. Activity is along the ridge which at this point rises to a high point. This field is typical of oil producing areas in Balcones fault system.

New Edwards Lime Field Near Luling Becoming Busy Spot

By JACK LOGAN
Staff Representative

LULING, Texas.—With a record of 31 producers completed, and an average daily production now of approximately 8000 barrels, and with 41 tests actually drilling and 21 locations, derricks and rigs listed on the drilling reports, the Salt Flat (Bruner) field just outside of Luling is an unusually active area at present; and the town of Luling is experiencing a much bigger boom than it had in the days of its first oil field, six years ago. The first Luling field, located about six miles north of the Salt Flat field, and about that distance from the town of Luling, was largely in the hands of one company, the United North & South Development Company, and so the activity was held down to a minimum; but the new Salt Flat field is divided among numerous operators, including all the major companies operating in this district; and there are many small tracts, of five acres or less.

The production of the field is chiefly from the Edwards Limestone, although a few wells are producing from the Austin Chalk. Like the old Luling field, which is also producing from the Edwards lime, and the other fields of Central Texas in the Balcones system of faulting, Salt Flat extends along a narrow, long line; with the trend of production extending in a northeast-southwest direction. The discovery Edwards lime producer, Sun Oil Company's Malone 1, is near the southern extremity of the present productive area, and since it came in, the field has been pushed farther up the fault line to the northeast. Shortly before the beginning of the new year the most northerly producer was Shell Petroleum Corporation's William Smith 1, which is located 8000 feet from the most southerly Edwards lime producer of the field, Lutex Oil Company's Davis 4.

Operations Over Wide Area

Drilling activity, however, extends nearly two and one-half miles farther to the northeast. Humble Oil & Refining Company's Johnson 1, the most northerly of all the tests so far started in the field, is 12,200 feet from the nearest producer, Shell's Smith 1. In the south end of the field there are several Austin Chalk producers south of the edge of the Edwards lime production; and so the total length of the field, from the chalk producers on the south to the Humble test on the north, is around four and one-half miles. At the widest point, the field is only 1650 feet wide; that place is from the Shell Petroleum Corporation's William Smith 1 on the west to M. K Townes' Hickman 1 on the east.

The Salt Flat area's possibilities for Edwards lime production were considered seriously as early as the spring of 1928; and in the following summer there was a concerted scramble for leases by many companies and independent operators, resulting in acquisition of acreage by numerous individuals and concerns. Humble Oil & Refining Company is one of the largest lease holders in the field, particularly in the north end of it; and other companies with extensive holdings include Gulf Production Company and Shell Petroleum Corporation. Humble now has eight operations in the field, and Shell has seven.

The basis for the play in leases and royalties last summer was the favorable indication given through a correlation of the logs of several tests in the vicinity, one on the north side and three on the south side of the fault which has now been outlined.

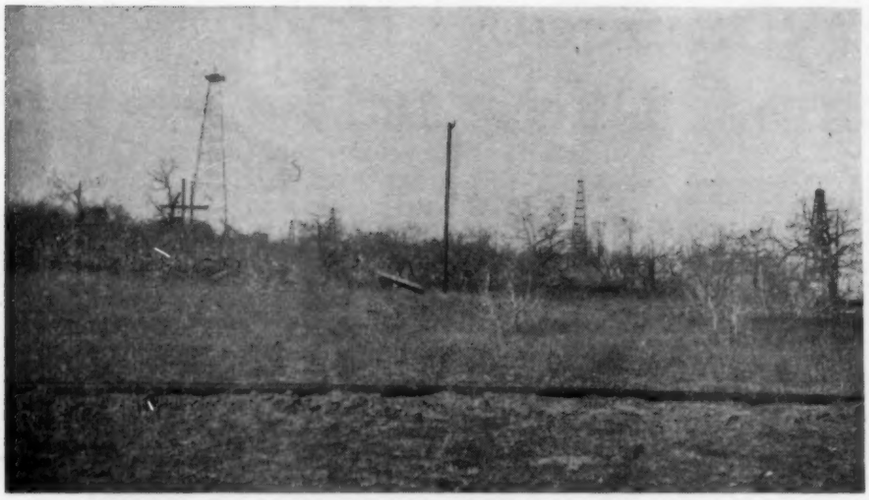
In the southern part of the present field, Rayor et al's Walker 1, drilled about four years ago, hit the Edwards lime low, being on the north side of the fault. Considerably farther north, at a point about

Houston.—Humble Oil & Refining Company's Johnson 1, in the extreme northeast end of the Salt Flat area, just outside of Luling, Caldwell County, has made several heads of oil; and pumping equipment is now being rigged up for the well. Although Humble Oil & Refining Company drilled the well, one-half interest is owned by Luling Oil & Gas Company.

Although it is not a large producer, according to expectations, the fact that it is making some oil is of significance; the well being 12,000 feet, or nearly two and one-half miles, northeast of the nearest producer, Shell Petroleum Corporation's William Smith 1.

About one-half of this two and one-half mile extension strip is held by the Humble Oil & Refining Company, or by that company jointly with the Luling Oil & Gas Company; and the remainder is divided largely among the Shell Petroleum Corporation, Gulf Production Compand and The Texas Company.

About halfway between Johnson 1 and the former edge of production, Shell Petroleum Corporation's Carter A-1 has been reported bailing sulphur water and some oil from the Georgetown at 2691 feet.



Derricks in Salt Flat field are strung out in a narrow line for 4½ miles along a high ridge rising up on the north from low ground known as the Salt Flat.

one mile northeast of Humble's present test on the Johnson land, Ratcliff et al drilled their New 1, abandoning it nearly two years ago. It was a dry hole, but showed some oil in the Edwards lime, and offered enough encouragement for the drilling of another test by the same interests on the nearby Briscoe land: Ratcliff et al's Briscoe 1. The Briscoe was finished last spring, and it, like the New test, showed some oil in the Edwards lime, but was not a producer.

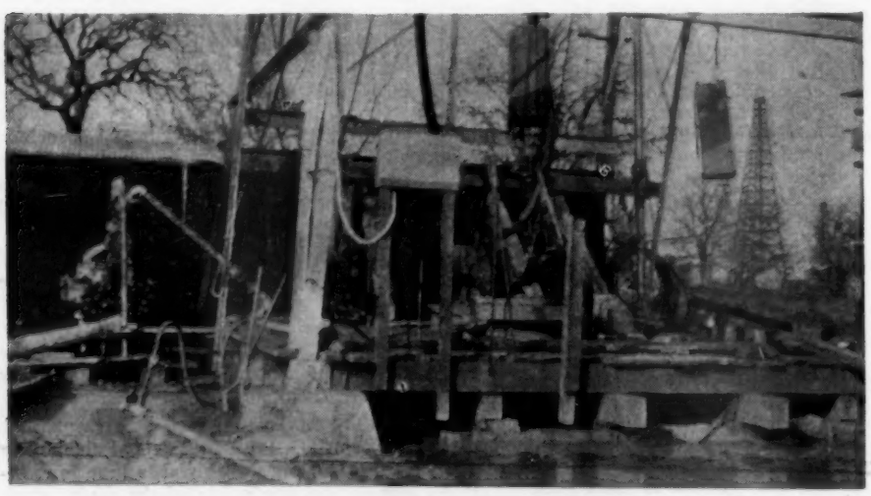
These two tests drilled by Ratcliff et al were on the down dip of the fault; and about the time of the drilling of the Briscoe 1, there was a third test in the vicinity on the down dip of the fault which had an important bearing on the later development. This was the Luling Oil & Gas Company's Carter 2, located east and slightly south of the present Humble test on the Johnson. This test of the Luling Oil & Gas Company in the spring of 1928 showed some oil in the Edwards lime, but was never finished as a producer. Correlating the records of these four wells. the two Ratcliff tests in the extreme north end of the area and that of the Luling Oil & Gas Company to the south, all three on the down dip of the fault; and the Rayor test still farther south, but on the north side of the fault considering these four tests, it was assumed that the fault line lay on the line between them, and the play in leases embraced this entire area.

Activity in Salt Flat field impeded around Christmas by mud, but eight-mule teams and caterpillar tractors help solve transportation problems.

Even to this point, however, there was no definite assurance of the discovery of a commercial deposit of oil; and the trading boom which was in progress last summer was due in large measure to one company or individual being afraid of another, not having any great faith in the possibilities of the area, but being unwilling to go unprotested while there was opportunity to get some acreage, and at least a slight hope of profiting through it. As a matter of fact, offsetting the favorable indications for the area, there were numerous examples of other areas in the same county which in the past had offered promise of Edwards lime production, only to prove disappointing later. In spite of extensive wildcatting and favorable showings extending through a period of six years following the discovery of the pay in the Lulings field, that pool had remained the only Edwards lime field in the Balcones fault zone.

Following the scramble for leases and royalties, the area quited down; and it remained for the present activity to be started more or less by accident.

In the south edge of what is now the Salt Flat field, one test which had been started in the hope of getting oil wherever it might be found, but with the Edwards lime as the ultimate objective, somewhat sidetracked the interest from the possibilities of Edwards lime production by finding oil in commercial quantity in the Austin Chalk. This was in the summer of 1928. The well was completed as Lutex Oil Company's Davis 1. It is just outside of the town of Luling. The test was started as Sullivan et al's test, and was next taken over by Joseph Bruner et al. Mr. Bruner later became affiliated with the Lutex Oil Company, Inc., of Los Angeles, California, and that concern was owner of the Davis 1 when it was completed. It came in as a producer from the Austin Chalk, making 150 barrels per day, and being the first chalk producer of the county. The Lutex Company next completed an offset, Wilson 1, as the second chalk producer of the field; and this was followed by the Golden West Oil Company's Wilson 2 as the third chalk producer of the field.



Humble Oil & Refining Company's W. F. Davis 2 in Salt Flat field.

Sun Opens Edwards Lime

Golden West's Wilson 2 was offset by the Sun Oil Company's Mrs. Cora Malone 1; and the Sun test missed the pay in the

Salt Flat (Bruner) Activity
(As of December 27)

Drilling

Tests drilling	38
Tests standing	3
Locations, derricks and rigs	21
Total operations	62

Production

Wells producing	23
Fields' production	7,802 bbls.
Day's prod. per well	340 bbls.

Austin chalk, but decided to try for production in the Edwards lime. It encountered its first oil saturation in the lime at 2716 feet and the main pay at 2735-43 feet. This well flowed 735 barrels of 35 gravity oil during the first 24 hours when completed on October 10, 1928. An interesting point in regard to this well is that it remains one of the best in the field; a report of the production of the well during the week ending December 17, showed it to have produced 3486 barrels that week, or an average of 498 barrels per day. This well, the discovery well of the Edwards lime production, is located 151 feet from the south and 886 feet from the west line of a 50-acre lease in the F. Floyd league. It is one and one-half miles northeast of the town of Luling. Following the completion of this well, which found the Edwards lime production more or less by chance, activity was immediately stimulated, and has gradually increased to the present proportions.

Although the Salt Flat field is producing from the same formation as that found in the original Luling field, northwest of it, the Salt Flat oil is considerably higher in gravity, and is a better grade, showing only 0.80 per cent. sulphur content; as compared with considerable sulphur in the old Luling field oil. The Salt Flat oil tests from 35 to 37 degrees gravity, while the Luling oil is about 28 to 29 gravity.

Magnolia Has Line

At present the only pipe line outlet at Salt Flat is through Magnolia Pipe Line Company's system, and that company is paying only $1 per barrel for the oil, the posted price of the old Luling field, inasmuch as it is necessary to handle the high gravity, high grade Salt Flat oil along with the Luling oil in that general system. However, most of the production of the field is being bought by the Sun Oil Company, which is paying $1.31 per barrel for it, handling it by tank car. Shell Petroleum Corporation is also buying some of the field's production, paying $1.31 per barrel, and running it to steel storage.

Easy Drilling

It is estimated that the cost of drilling a well to the Edwards lime in this field and equipping it to pump is around $15,000, including the costs of casing, tubing, and pumping equipment; figuring the depth of the hole around 2700 feet. One contractor reported that his fuel cost in drilling a 3000-foot hole in this field was $775, and the labor cost $2500. Ten-inch surface casing was set at 40 feet, and six and five-eighths-inch casing was set at 2400 feet. All fuel oil used in the field is hauled out there by truck from Luling, and this cost varies. For a while it was possible to buy fuel oil delivered to the field for $1.50 per barrel, but later, following heavy rains, it became difficult to reach some of the leases, and it was necessary to pay as much as $1.50 per barrel just for hauling charges. The record time so far established in the field was with a steam rig. The well was rigged up and drilled in seven days. There are no hard formations to penetrate, being mostly shales.

All drilling so far has been with steam rigs, with two exceptions. Sun Oil Company has one gasoline rig; and one contracting company, Lynd & Hartmangruber, of Corsicana, Texas, drilling for the Humble Oil & Refining Company, is using an electric rig. This electric rig is being used on the Humble's W. F. Davis 2, the electricity coming over a high-line of the Central Power & Light Company.

Humble Oil & Refining Company's Johnson 1, the important well in the north end of the field, hit the Austin chalk at 2210 feet, the top of the Del Rio at 2552 feet, and the top of the Georgetown at 2621 feet. On Friday, December 28, it was reported that the test had drilled six inches into the Edwards, which was high at this location, and when the report was sent out there was 300 feet of oil and 40 feet of hot sulphur water in the hole.

Los Angeles.—Several officials of Marland Oil Company of California have resigned to accept positions with other organizations or to look after personal interests. Franklin R. Kenney, president has resigned because of ill health. He had been ill for some time and retired at the suggestion of his physician. Other resignations included Grant Corby, chief geologist, James Dorrance, assistant geologist, A. H. Heller, valuation engineer, T. K. Sterling, assistant secretary, A. C. Brice and W. Cassidy of the land department and Ellsworth McGowan, assistant to Mr. Kenney.

Record of Completed Tests in Salt Flat (Bruner) Area

Completed Producers From Edwards Lime

Company—	Lease	No. Wells	Approx. Daily Prod.
J. S. Abercrombie	Lida Moses	2	1,500
Cranfill & Reynolds	Merriweather	1	90
Cranfill & Reynolds	S. Smith	3	1,260
Golden West Oil Co.	Wilson (2-3-4)	3	800
Gulf Production Co.	Connally	3	1,600
Lutex Oil Company	Davis (No. 4)	1	45
Lutex Oil Company	Wilson (No. 2)	1	160
Shell Petroleum Corp.	J. Smith	1	100
Shell Petroleum Corp.	Wm. Smith (1-2-4)	3	1,570
Shell Petroleum Corp.	R. W. Malone	1	500
Sun Oil Company	Malone	1	500
M. K. Towns	Hickman (1-3-4)	3	124
Total Edwards Producers		23	8,249

Completed Producers From Austin Chalk

Atlantic Oil Prod. Co.	Davis (No. 1-A)	1	105
Suttle et al	Malone (No. 1)	1	90
The Texas Co.	Merriweather (1-2)	2	825
Thurman & Brown	City of Luling	1	100
Golden West Oil Co.	Wilson (No. 1)	1	d.d.
Lutex Oil Company	Wilson (No. 1)	1	**
Lutex Oil Company	Davis (No. 1)	1	**
Total Chalk Producers		*8	1,120

*Some of these tests went down to the Edwards, but failed to get production and plugged back to the Austin chalk.

d.d.Now being drilled deeper, to the Edwards, although it produced some from the chalk.

**Figures on production not available.

Dry Holes

United North & South Dev. Co.	Davis 1
Lutex Oil Company	Davis 3
Armstrong et al	Martin 1
Sun Oil Company	Malone 2
Date Oil Company	Hickman 1
Hadley et al	Tiller 1
Hadley et al	Heist*1
Luling Oil & Gas Company	Carter* 1
Luling Oil & Gas Company	Carter 2
Rayor et al	Walker 1
Radcliff et al	New 1
Radcliff et al	Briscoe 1
Total number of dry holes in area	12

*Did not go down to the Edwards lime.

Oklahoma Well Average Down at Mid-Year Check

Daily production per well drops 4.83 barrels while number of producers increased 932; smaller wells plugged

By WALLACE DAVIS
Staff Representative

THE average daily yield of 56,625 producing wells in Oklahoma during the last week in July, 1928, was 10.61 barrels. This output represents a decline of 4.83 barrels per well in the state when compared with the same week a year before, when 55,693 Oklahoma wells had a daily production average of 15.44 barrels.

The record of producing wells in the state during the last week in July for the two years, when completed oil wells during the year is considered, shows 881 wells to have been plugged or off production at the latter date, since 1813 were added to the producing list within the 12 months.

One item about the change in the producing status of Oklahoma's wells during that year is outstanding—the fluctuation of the state amounted to no more actually than the fluctuation in the five original pools of Greater Seminole. Excluding these five fields, which played the leading role in the state's production since July, 1926, the well average of the state would have declined only .25 of a barrel; from 6.83 to 6.58 barrels. Thus, it is seen that new flush production of the state, outside of the five Seminole pools, served only to approximately offset the natural decline under way in the older, settled areas.

Among these new sources of "better than average production" outside of Seminole territory, which aided in checking the well average decline, St. Louis field of Pottawatomie County, Allen field of Pontotoc-Seminole-Hughes Counties, and the Lovell-Roxana area of Logan County are outstanding. There are other areas, some old fields and some fairly new or, at least, having new production of comparative strength added, as Vernon field of Kay County, Okemah district, Ryan field, Deer Creek and Duncan fields. There are a bare few fields where little or no new development has taken place during the year, but where improved production methods have served to raise the well average. Of interest in this group are South Ponca field and the Bald Hill district.

The accompanying tabulation of fields or districts showing the number of producing wells, daily production for a week and well average pretty well outlines the production situation of the state for the same period in 1927 and 1928. Covering the situation as it does for the close of July, this compilation misses the real flush periods of both St. Louis and the South Little River extension, beginning in August and going to peaks of recent dates. That this would not register any great increase in the total well average of the state now, however, is seen in the fact that declines in Earlsboro, Seminole City, Bowlegs and Searight since August 1 have been sufficient to entirely offset the increase in well average in Little River. The well average for the five old Seminole fields, December 1, was 213.72 barrels as compared with 213.37 barrels for the last week in July. Furthermore the well average at St. Louis field was increased only 46.59 from the last week in July to December 1, making the greatest strength which would be contributed to the state's total average lie in the increased number of wells having this high average. Moreover, the well average of many of the older districts during the August 1-December 1 period registered steady declines. While this is the case with practically every settled pool, there being few wells of strength added to check natural decreases, the noticeable decline in well average is coming through falling production in the semi-flush fields. Outstanding in the latter class are Tonkawa and Burbank fields.

Maintaining Well Average

There are two factors which have and will continue to play the leading part in favoring a good well average among settled fields—plugging near-depleted wells and repressuring. In comparing well averages it has been found that plugging wells, which have neared exhaustion, has alone resulted in an increase for the field where no new production has been added during the year.

Repressuring in the old, shallow areas of Oklahoma has also been a major factor in keeping a fair well average. The importance lies in the great number of wells in such areas to figure in the total average. It is surprising to find the favorable results given the state's well average by increasing the average one barrel per well in the district having 3000 to 4000 old pumpers. This has been done by repressuring the sands and plugging the strippers. To determine the actual results from such methods the normal decline to come otherwise is to be considered, which in most cases would have meant the opposite trend in production per well. And thus a difference of two barrels per well is to be figured instead of the one-barrel increase.

Plugging of deep wells, as in Greater Seminole district, gives a different result in an much as some of the producers in such areas become unprofitable on declining below 40, or, in some cases, 50 barrels. This plugging work aids the well average of the individual field but lowers the well average of the state. It is, then, the districts of shallow, long life pay sands making small producers a profitable business that determines usually the low or high well average of a state. Eliminating the old, shallow districts of Oklahoma the remaining fields of the state would approximate 30 barrels.

Future Oklahoma Average

The well average given in the accompanying table for the last week of July, 1927, stands out as exceptionally high. While exact figures for the same period in 1926 are not at hand the 1927 figure is seen to run higher than that of 1926 due to the exceptional flush producing areas in the state in 1927. And, since the major portion of the state's wells are from comparatively shallow depths and found profitable even with meager production, it is likely the Oklahoma well average will remain fairly low. Certainly the state is not figured to find flush production in the future which will exceed that of the Greater Seminole territory. And even, if such a territory were duplicated in the future, there would be the continued increase in smaller producers to be figured in the total well average.

Oklahoma is entering 1929 with actually more new development in sight than was had in the opening of 1928, but with a lower production level existing. If new areas to be drilled into production were to again raise the state's total to that held in 1928 it would be done with addition of between 1500 and 2000 new wells. That additional number is to be figured into the well average. Moreover, the relatively high production level seen now is unstable when the trend for the first half of 1929 is considered. Natural decline in the five original fields of Greater Seminole and in the St. Louis field bids fair to cut the daily yield in half during 1929. New outside areas of this territory, as the Mission and Maud fields, are due to no more than hold the well average now held by the six fields mentioned. The Allen field, considering only the existing pay horizons and the past performance of the field, will have little effect on the state's total. Wells from the major producing sand there, Cromwell pay, decline rather sharply, and rapid increases in the number of wells in the field will be necessary to even hold its own well average.

The interesting point to consider now is the status of deep production which

OKLAHOMA WELL AVERAGE

Field—	July, 1927 Wells	July, 1927 Production	July, 1927 Well Avg.	July, 1928 Wells	July, 1928 Production	July, 1928 Well Avg.
Alcorn	22	1,132	51.45	23	1,086	47.21
Allen	72	1,884	26.16	124	19.601	158.07
Bald Hill	861	951	1.10	879	1,138	1.29
Blackwell	148	1,456	9.83	134	974	7.26
Bowlegs	161	184,542	1,146.23	324	55,521	171.36
Braman	124	5,808	46.83	122	4,543	37.23
Bristow-Depew-Slick	1,920	24,364	12.68	1,914	21,656	11.31
Brock	128	1,082	8.45	128	741	5.78
Broken Arrow	642	1,290	2.00	644	1,143	1.77
Burbank	2,006	38,461	19.17	2,086	29,803	14.23
Carter-Knox	170	8,586	50.50	164	6,081	36.46
Cement	176	2,082	11.82	184	1,677	9.11
Cleveland District	748	4,559	6.09	745	3,408	4.57
Cromwell	411	12,493	30.39	380	9,350	24.60
Cushing-Drumright	2,364	21,995	9.30	2,374	19,648	8.27
Davenport-Stroud	210	4,441	21.14	210	3,445	16.40
Deer Creek	15	770	51.33	20	1,033	51.65
Duncan	554	6,854	12.37	552	7,984	14.46
Earlsboro	121	164,660	1,360.82	274	74,943	273.51
Fairfax	20	908	45.40	20	547	27.35
Fox	170	1,856	10.91	172	1,616	9.39
Garber	770	11,603	15.06	770	8,317	10.80
Graham	320	6,912	21.60	317	5,210	16.43
Healdton	1,913	15,280	7.98	1,911	14,008	7.33
Hewitt	801	9,830	12.27	809	9,402	11.62
Holdenville-Papoose	226	6,716	29.71	207	3,882	18.74
Hubbard	70	5,354	76.48	67	3,312	49.41
Ingalls	53	3,668	69.20	55	1,814	32.98
Keystone District	294	2,433	8.27	287	2,463	8.58
Little River	1	11,285	11,285.00	142	43,717	307.86
Lovell-Roxana	2	2,313	1,156.50	20	10,165	508.25
Madill	9	109	12.09	24	465	19.37
Mervine	48	331	6.89	48	305	6.35
Muskogee District	367	275	.74	599	2,634	4.39
Nowata County	8,954	6,380	.71	8,815	5,110	.57
Okemah	482	1,858	3.85	535	2,103	3.91
Okmulgee-Beggs Dist.	1,224	17,143	14.00	1,231	15,115	12.27
Osage County Misc.	7,822	31,881	4.07	7,965	28,562	3.58
Pearson	15	7,605	507.00	56	3,720	66.42
Robberson	237	3,075	12.97	243	2,526	10.39
Rogers County	4,190	3,470	.82	4,253	2,240	.52
Ryan	76	1,775	23.35	93	2,371	25.49
Sayer	5	72	14.40	5	45	9.00
Scholem Alechem	186	15,610	83.92	215	15,516	72.16
Searight	43	30,890	718.37	69	12,766	185.01
Seminole City	305	92,210	302.32	296	48,828	161.58
South Ponca	59	824	13.96	57	850	14.91
St. Louis	13	1,690	130.00	80	36,625	457.81
Tonkawa	729	21,581	29.60	666	13,552	20.34
Tulsa District	6,398	18,140	2.83	6,379	15,651	2.45
Vernon	18	812	45.11	19	895	47.10
Washington County	7,973	5,218	.65	7,846	4,770	.60
Wewoka	214	19,743	92.25	226	5,982	22.04
Watchorn	20	1,724	86.20	21	763	26.33
Yale	337	7,915	23.48	335	6,152	18.36
Miscellaneous	476	4,166	8.75	491	4,493	9.15
Total	55,693	860,065	15.44	56,625	601,267	10.61

will feature Oklahoma in 1929. The 6000-foot production of Logan County, with the recent Oklahoma City discovery, which marks a new deep producing horizon for the upper Mid-Continent will be more attractive throughout the coming year than any other part of the state's development. The time element in developing such an area to big production, plus the high cost, which prohibits promiscuous boom drilling, will be the outstanding factors in making both fields long drawn out propositions. No field founded on producing structures that are hazardous from dipping and irregular formations will attain any high daily production over a short time when more than 100 days and $100,000 are required to complete the average well in that field. Oklahoma City's new field is yet an unknown quantity, and Logan County's deep production is still in the early stages of development. It has 2500 barrel wells that maintain an unusual stability, and it also has a high average of dry holes and small wells ranging from five to 300 barrels.

While the well average of individual fields in Oklahoma has not been obtained for December 1, the number of producers figured with American Petroleum Institute production estimates for the week ending December 1 concludes the total well average for the state to have been 12.40 barrels. Thus the recent flush output of St. Louis and South Little River fields, with the early development of Maud and Mission fields is indicated. During the four months ending December 1 the well average of what is considered the state's settled production declined from 5.40 barrels to 4.82 barrels. In the same period the well average of flush fields increased from 227.36 barrels to 256.36 barrels. As divided by the Oklahoma umpire and conservation committee the flush production of the state includes Greater Seminole fields, St. Louis, Allen and the Lovell-Roxana area of Logan County.

1929 Average Estimate

While no sane guess on the quantity of new production to be developed between now and August 1, 1929, could be made, estimates on the trend of stuff now proven and under development might have a close bearing on the approximate well average of the state at that time. Taking the decline in settled fields of Oklahoma from August 1 to December 1, 1928, as a criterion, those fields, having 55,296 wells and 299,100 barrels on the former date and 55,384 wells and 267,650 barrels on the latter, a decline of .58 of a barrel per well, would show a well average of 3.66 barrels August 1, 1929.

As for Greater Seminole fields, the Mission and Maud fields from present performance will do well to hold production in this territory, including St. Louis field slightly to the west, through the next eight months. Considering the high level of Little River and St. Louis fields on December 1, such a performance of Mission and Maud fields would be unusually good. Prior to August 1 an estimate of 600 producing wells will be completed in the Seminole-St. Louis area. Approximately 100 wells in the same area will no doubt be plugged. The additional 500 wells will then be to figure into the production at the present level.

It remains, then, for new productive acreage as at Oklahoma City, further discoveries in the near future, possible exploitation of Wilcox sand production in Allen field and a continued proving and developing of the deep Logan County pay to offset the probable losses mentioned above if Oklahoma's wells produce an average during the last week in July, 1929, as that made a year before.

Second Deep Test Nears Objective at Rincon

Ventura, Calif.—Richfield Oil Company has reached 6000 feet in Hobson Fee 1, the company's second deep test in the Rincon field, and may be able to test the well before final completion of Hobson 1, the original deep well. The formations in Hobson Fee 1 are checking roughly with those logged in Hobson 1, indicating that production should be expected around 6500 feet. After a series of mishaps, Hobson 1 has been re-cemented for another test at 6520 feet. The original bottom was 6532 feet, but the hole was plugged back in an effort to shut off the water. The tricky condition which prevented the completion of commercial wells around 3000 feet for several months seems to prevail in the greater depths. Gray sand was cored with oil sand below 6500 feet in Hobson 1.

Field production, which at one time reached 5000 barrels, has receded to 4000 barrels from 24 wells.

It Is Hard to Imagine Hauling Mud To an Oil Field

But that is the condition that confronts operators in West Texas and they have as much trouble with the dry roads as most places have with wet

By L. G. E. BIGNELL

TO those who have followed the oil field developments of this country from Pennsylvania westward through West Virginia, Ohio, Indiana, Illinois and into the Mid-Continent region, and even still further west to the Pacific Coast or south to the Gulf Coast, there are always scenes to be recalled when the rains, that seem to follow such developments, had turned roads and fields into quagmires of slush and mud and made operations most difficult.

There are a few exceptions to this general rule, for instance the development of Santa Fe Springs area in California where paved roads lead to and from the field during the development period, but generally speaking mud and oil field development have been very closely associated.

It therefore may seem rather strange to state that there is a field now being developed where mud in this sense is practically unknown and where it is actually necessary to ship in clays from distant points to be used in the mixing of rotary muds.

Winkler County, in the Permian Basin area of West Texas, is such a field, and this absence of surface soil suitable to use for rotary mud has lead to the establishing of a business of considerable volume and profit that has for its purpose the sale of clays shipped in from El Paso, Texas, and costing the operator from $10 to $12 per ton delivered on the location.

These dealers have given their products suitable descriptive names, and thus elevated that thing which in most fields has been cussed and discussed beyond measure to a commodity bought and sold with all of the commercial details of cement, gypsum or other manufactured products.

The clays are for the most part excavated and packed in ordinary gunny sacks by the brick plants and others in somewhat similar business in El Paso and shipped by rail the intervening distance of about 300 miles to Pyote, Texas, on the Texas-Pacific Railway and then hauled by truck to the field, a distance of about 19 miles.

A considerable part of the cost comes from this truck haul, but in spite of the difficulty in trucking over the so-called road between railroad and field, it is surprising to note how many sacks of dirt have been dropped from the trucks to be allowed to remain in the roadway until rolled into the sand forming the road by the passing vehicles. It is safe to hazard the guess that a large truck load of abandoned sacks of clay could have been gathered from the road any day following the movement of this material to the field.

This typifies the general attitude of the oil field worker to material with which he is familiar, for it would seem that in no industry is the old adage "Familiarity breeds contempt" more strongly emphasized than in handling low grade oils, and, in this instance "dirt," even though this particular brand of dirt is sacked and has been transported hundreds of miles. It is still dirt and those sacks that fall from the truck are allowed to lie where they fall, an example of waste that is hardly excusable.

When this sacked clay reaches the location where it is to be used, the driller has several problems confronting him, for in this field it is not simply a matter of dumping it into the slush pit and adding water until the required gravity is obtained, for the slush pit here is usually reserved for the circulating water only and that is kept as clear as possible.

The formations encountered in the Winkler field are found to drill much more easily and rapidly if practically clear water is used and the walls of the hole being for the most part in sand and limestone strata stand without mudding, which would not be the case if the drilling was done through less unconsolidated sedimentary formations such as found in other fields.

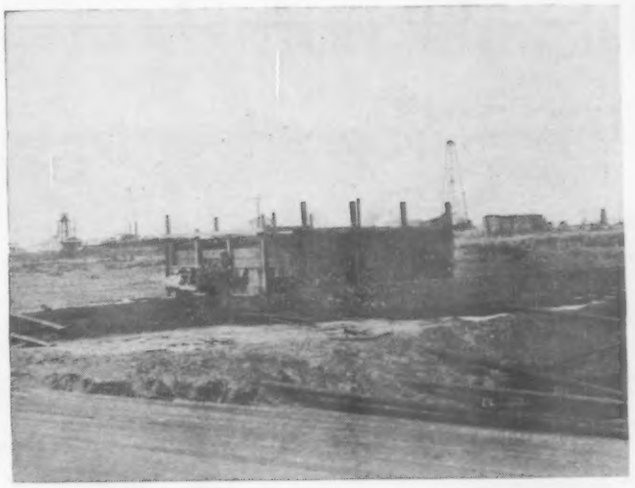
However, there are strata in this Winkler pool that are very porous and the circulation of water is lost and it is to mud off such formations that this rather expensive rotary mud is imported.

Geologically this whole formation is of Permian age, and there is a sandstone found there that varies in thickness from 25 to 150 feet that is marked with mud breaks and this particular formation is one that gives the operator much of his trouble in mudding the walls of the hole.

Areas to Be Mudded

When this porous sandstone is encountered the hole is of the larger size, either 11 or 12½ inches diameter, and this of itself tends to increase the demand for mud laden fluid for the area of the face of the stratum exposed for such vertical foot of thickness of a 12-inch hole drilled is 3.14 square feet. If this strata should be 50 feet thick it

Piles of sacked clay in distributors yard and at derrick of rotary well in the Winkler County pool, West Texas.



Two types of wooden mixing boxes for preparing rotary mud from sacked clay shipped into the Winkler County area.

would mean that mud fluid must be applied to the interior of a cylindrical sand filter having an area equal to 50 times 3.14 square feet or 157.1 square feet, whereas if the hole had been only six inches diameter but the sand body still 50 feet thick the area exposed to be mudded would be reduced to 78.5 square feet.

That this particular standstone formation is very porous is made evident by the fact that M. J. Kirwan states in an article that was published in The Oil Weekly, July 5, 1924, that a series of tests conducted at the U. S. Bureau of Mines Experimental Station at Bartlesville showed that mud fluid could be forced a short distance into coarse and unconsolidated sand but that it cannot be forced into sandstone even under a pressure of 2200 pounds per square inch.

This fact makes the conditions found in the Winkler field all the more interesting for in one instance sand stone strata was used for the purpose of disposing of sulphur water coming from wells producing oil and over one and one-half million barrels of this water was pumped into one of these disposal wells without any returns ever being noted. And this was done during a period of 90 days.

This vast body of water equalling 63,000,000 gallons based upon the oil field measure of 42 gallons per barrel, is sufficient to cover 193 acres of ground one foot deep, or in a sandstone with a porosity of 20 per cent. it would fill nearly a 1000 acres of strata one foot thick, or 20 acres of formation 50 feet thick.

The process of mudding off such a formation in order that drilling may proceed sometimes takes days or weeks and these wells usually require from 50 to 60 tons of clay, which is mixed into a mud having a weight of about 10 pounds per gallon. Based upon water weighing 8.3 pounds per gallon this would mean the addition of about 1.67 pounds of clay to form this mud laden fluid or a ratio of about 500,000 pounds of water to 50 tons of clay.

Other wells have required as much as 200 tons of clay to furnish enough mud laden fluid to mud off the open formation and permit drilling to proceed.

In drilling the sandstone formations where this vast quantity of mud is required it has been noted that the drill pipe will drop from one to two inches at a time indicating that there must be breaks in the formation and caution is therefore very necessary in working in this kind of ground.

It is a matter of conjecture only as to where this mud disappears and how it forms a seal at the edge of the hole but it would seem logical to assume that it would flow away from the hole at constantly reducing velocity so that the carrying capacity of the water would be gradually reduced and the solids would settle out and fill the voids within the sand.

This process would tend to build up a wall of mud that would be thinnest at its greatest distance from the well and gradually forming a thicker bed until the wall of the well is reached where all pores would be filled and the mudding off process completed.

If actual caverns existed in this formation, that might be compared with *vugs* weathered out of limestone, it would be right to assume that this mud bank had taken the angle of repose for mud and gradually forced the stream to flow over a constantly heightening mud dam.

Whatever may be the mechanical process followed in depositing this mud underground to serve its purpose of closing the pores in this open type of formation it is known that much time, labor and material is needed and the problem that the driller is most interested in is the work done at the surface of the ground.

The usual type of slush pump is used to force the mud fluid into the hole, but the method of mixing the clay and water is somewhat different to that followed in the fields where suitable dirt for making mud fluid is easily obtained.

The surface of this field is entirely covered with sand which lies directly on a layer of caliche (lime carbonate) and both these formations are very soft and not easily saturated with water.

If the usual type of slush pit is dug in this formation it means considerable blasting to break up the caliche and that is costly and then after the hole is made it requires a lot of water and mud to make it water tight and with clay costing $10.00 per ton it is much cheaper to make wooden mixing boxes and therefore a large number of these recepticles are noted scattered through the field.

They are made of rough boards and the cracks covered on the inside with narrower strips of wood but they are not exactly water tight as first finished and require considerable water to swell the wood and close the seams.

Water is usually quite plentiful so that is not a hard problem, but as the typography of the ground is usually quite flat it means lifting the clay six or eight feet from the ground to pour it into the bin and this requires a lot of labor and the sun in that country during the summer is quite hot.

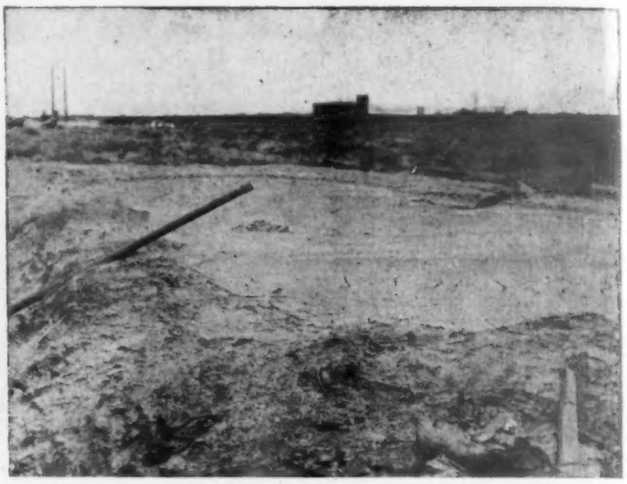
So the field workers have devised another method of mixing mud that requires less physical exertion and this apparatus is known as a mixing hopper and consists of a cone shaped sheet metal hopper surmounted by a straight walled cylinder that is sunk into a pit dug at some convenient place near the well and into the bottom of this hopper is connected a steam line on one side and an outlet line on the other.

The bags of clay are dumped into this hopper and the action of the hot steam and water flowing across the bottom of the cone carries out the clay as mud and it is deposited in a dug pit and from there pumped into the well. Returns from the well usually go to another pit so that the gravity of the mud fluid can be carefully checked into the well.

These mud mixing boxes and the mud pits are usually left full of dried mud for it does not take long for the moisture to escape in that climate of very low relative humidity and there are often long periods when the drilling fluid is as nearly clear water as it is possible to keep it and flush the drill cuttings out of the hole.

This whole area presents many new and interesting problems for the operator and his engineer but the lack of mud is something quite out of the ordinary for the usual oil field, especially during the development period, but old timers in that country state that the summer season of 1928 had more rainy days in it than any

Mixing hopper in Winkler pool showing steam and hot water line into the hopper and outgoing discharge line to pit.



A slush pit full of dried mud ready to be re-mixed if needed Hendrick pool.

they can recall during the past fifteen or twenty years so it may be that this field is yet going to develop some problems in muddy roads, but just how it will be accomplished with the surface soil of nearly pure sand is something of a puzzle and one best left to the natural courses of event.

But there does seem to be something worthy of consideration in the old theory than rains follow the oil fields if the opinions of the settlers of the West Texas Permian basin are to be credited, and they have the grass to show on their ranges which is long and green, where it has usually been short and yellow, if there was any grass at all, so some time it is hoped that some one will devote the necessary time to compile a table of relative rainfall for an area before and after oil was discovered in it to place the facts of the case before all interested.

Magnolia Runs Lower in November

Dallas, Texas. — Magnolia Pipe Line Company's crude runs from fields in Oklahoma, Texas, Louisiana, Arkansas and Kansas during November averaged 128,883 barrels daily, or 3755 barrels below the record daily average maintained the previous month. These runs represent crude produced, royalty oil and that purchased by Magnolia Petroleum Company, and does not include the large volume of oil handled daily on a common carrier basis for other companies to the Gulf Coast.

Although Magnolia Pipe Line Company's crude runs were considerably above the average for the year during November, the relief from excess supply through tanker shipments from Beaumont to Atlantic Coast refineries of Standard Oil Company of New York, the parent organization, dropped to a new low level, as only seven cargoes aggregating 473,894 barrels were loaded. Tanker shipments of crude have been averaging about 750,000 monthly for more than a year. Water shipments of refined products to Atlantic Coast points and foreign countries amounted to 43,944,086 gallons as compared to 60,593,802 gallons in October, while fuel oil shipments from Beaumont docks registered a negligible decline with a total of 6,988,467 gallons for November.

Magnolia Petroleum Company put less oil in storage in Oklahoma during the past month as a result of a slight drop in runs and an increase in trunk line capacity, the latter was made possible in November by the addition of loops in the southern part of the state. Crude stocks in this state accumulated at average rate of 4309 barrels daily, as compared to an average of 10,683 barrels daily to storage in October. At the close of November the company reported a total of 9,265,632 barrels in storage in Oklahoma, while 12 months previous total stocks amounted to 6,946,641 barrels, representing an increase of 2,318,991 barrels for the year. Oklahoma is the company's largest source of crude supply of the five states served, and during November runs averaged 62,512 barrels daily, while runs from Texas fields averaged 54,144 barrels.

The Earlsboro - Wewoka district, Oklahoma, accounted for nearly one-third of the total oil run during November, and this particular district is also the scene of about one-third of the total field operations credited to the Magnolia Petroleum Company. A recent check shows that the company had 92 active tests; 17 derricks and rigs up, and 21 locations in the five states, while the Earlsboro-Wewoka district accounted for 36 active tests; five derricks and rigs, and three locations.

Total crude runs made by Magnolia Pipe Line Company, exclusive of common carrier business, from fields in Oklahoma, Texas, Arkansas, Louisiana and Kansas during October and November, 1928, follow:

Fields—	October Totals	November Totals
Wewoka-Cromwell	1,294,649	1,193,481
Healdton	240,131	211,991
Hewitt-Graham	150,789	142,435
Seminole	129,662	120,919
Cushing	123,891	112,302
Yale	48,968	44,859
Duncan	43,442	40,048
Augusta (Kansas)	37,810	34,867
Walters-Beaver Creek	8,526	9,247
Burbank	88	84
Total for Oklahoma & Kansas	2,077,956	1,910,233
Luling District	350,275	331,183
Crane County	343,558	308,830
Mirando District	271,060	246,669
Winkler County	103,009	171,036
Roberts-Chalk (Deep pay)	158,809	130,043
Electra	101,189	95,953
Panhandle District	99,012	82,608
Burkburnett	70,186	66,800
Lockhart-Lytton Spring	45,252	43,267
Archer County	28,897	27,591
Howard County (Shallow)	29,752	27,525
Mexia-Wortham	24,617	23,954
Corsicana-Powell	23,031	20,926
Desdemona-Comanche	18,165	17,612
Ranger-Olden	9,909	9,366
Corsicana (Heavy)	9,618	8,457
Stephens County	8,646	8,227
Petrolia-Clay County	2,355	2,204
Thrall-Williamson County	984	990
Panola County	1,283	660
Spindletop-Gulf Coast	847	428
Total for Texas	1,700,454	1,624,329
Hackberry	56,097	90,880
Bull Bayou	42,506	38,385
Pine Island	29,372	31,442
Cotton Valley	29,218	23,612
Haynesville	2,256	3,495
Total for Louisiana	159,449	187,814
Smackover	79,090	79,428
Rainbow	77,690	50,147
El Dorado	13,336	11,300
East El Dorado	3,789	3,225
Total for Arkansas	173,905	144,100
Total for five states	4,111,764	3,866,476

Union Has Efficient Gas Lift Plant at Richfield

By BRAD MILLS
Staff Representative

CAREFUL selection of equipment, absence of intricate and questionable installations, and a rugged and simple design have combined to make the Union Oil Company's gas lift plant in the Richfield field one of the most efficient and successful installations of its kind in the entire country. In designing and adding to the plant, the company has worked with an open mind, incorporating only practical ideas, regardless of their simplicity. It has not, however, been prejudiced toward late improvements, having installed heavier and more efficient equipment when found necessary to do so. Conditions in the Richfield area also have been studied carefully, making it necessary to include or reject certain improvements which might be either of little value or especially useful in other fields.

After experiencing a steady decline in production for several years, the Union Oil Company undertook early in 1926 to check this gradual slump with the installation of a gas lift plant peculiarly suited to the Richfield district. Gas lift methods had been employed in many California fields but much was to be learned, even at this time. From some of the fields reports were unfavorable, especially where the wells had been drilled very close together. Other fields had shown the wisdom of various gas lift installations, however, and the company officials were anxious to give an up-to-date plant a trial at bolstering production at Richfield. Gas was available and if the curve representing production could be straightened, or even flattened appreciably, the purpose would be accomplished. The company regularly employed some of the best engineers in the industry, all of whom were familiar with the latest developments in the various gas lift methods.

Field Conditions

In summing up conditions in the Richfield field, it is only fair to state that the area offers some advantages over many districts, so far as gas lift methods are concerned. On the other hand, many problems not found in other fields are encountered. The fluid level in most of the wells is satisfactory, eliminating the use of pulsating installations and making it possible to produce the wells 24 hours per day. The main problem consisted in operating the wells more economically on gas lift than on the ordinary pump. With this in mind, Union Oil Company laid the plans for this first plant.

The original installation consisted of several small compressors. They performed satisfactorily, demonstrating that gas lift methods could be used profitably in the Richfield field.

The Plant

During July of 1927, these old compressors gave way to those now in use. The new plant consists of five 640-horsepower horizontal Worthington tandem twin gas driven compressors, with a total capacity of more than 20,000,000 cubic feet of gas daily at a pressure of 300-310 pounds. The construction of these compressors is such that the horsepower of the twin units may be doubled at any time by the addition of another pair of cylinders.

The auxiliary units include two, Bruce-Macbeth gas engines for operating the centrifugal water pumps. Outdoor, Fluor type cooling towers are used.

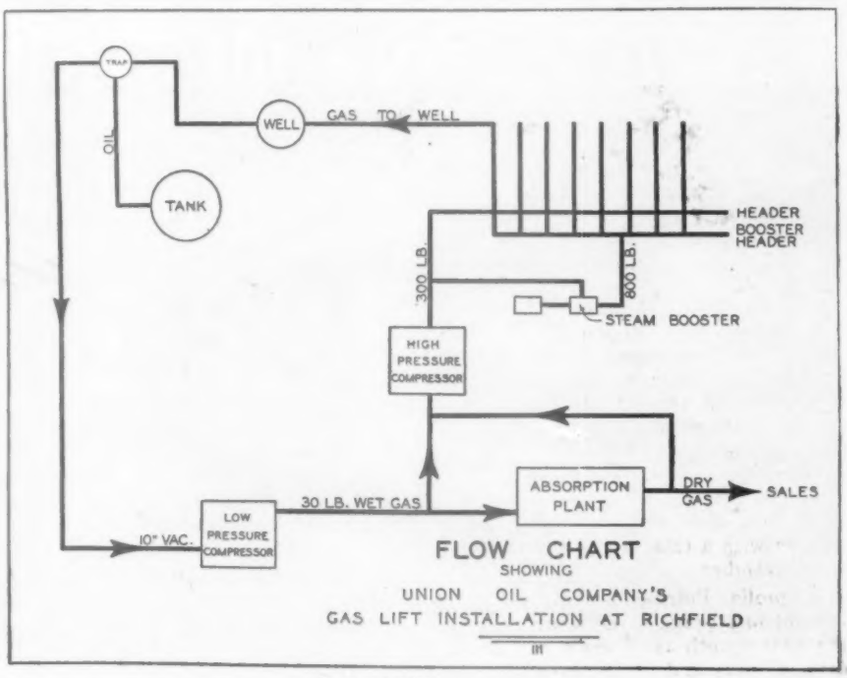
The entire system is unusual, in that an absorption plant is used in connection with the gas lift installation. This quantity of the gas handled by this absorption plant varies as sales requirements for natural gasoline and dry gas fluctuate. The arrangement is unique, placing an entire absorption plant in the closed circuit.

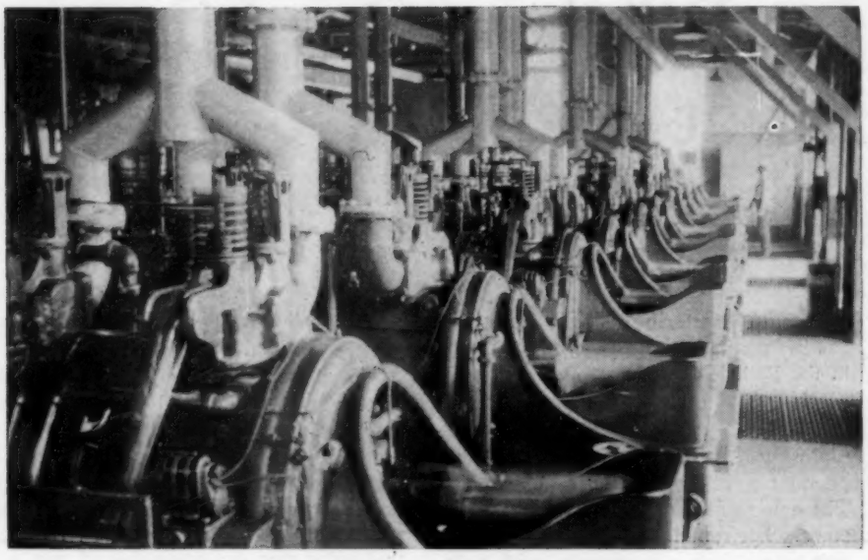
Union Oil Company's gas lift system is practically a closed circuit, compressing the gas from the field, sending it to the wells and using it, with the other gas picked up in the process of flowing the wells, again and again.

The flow chart is very interesting, although it does not involve a very elaborate hookup. Low pressure field compressors pick up the wet gas at a 10-inch vacuum and deliver it, either to the high pressure compressors or the absorption plant at a pressure of 30 pounds. It is at this point that the quantities of wet gas sent to the high pressure compressors and the absorption plant are controlled. At present about eight million cubic feet is being treated by the plant, while around six million cubic feet is being sent directly to the high pressure compressors. Either amount may be increased, as field and well requirements vary.

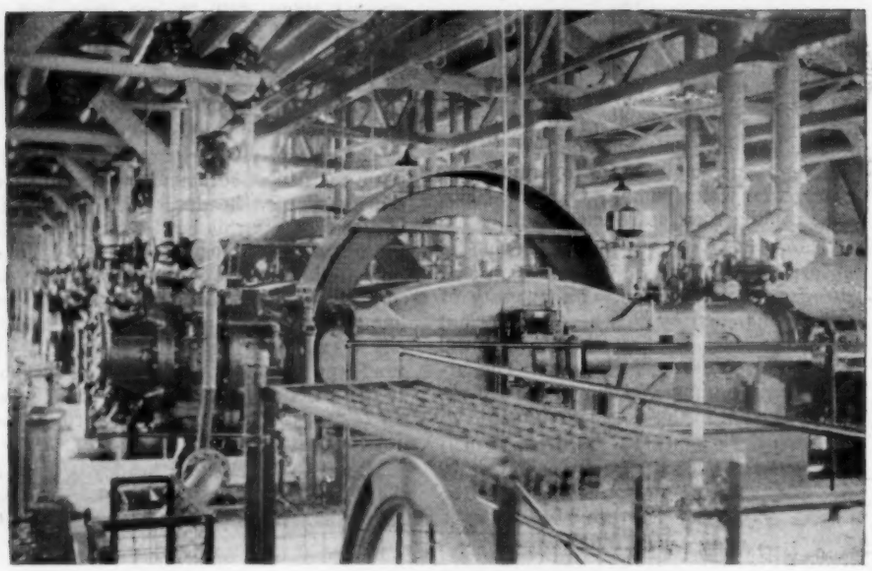
The high pressure compressors receive the gas at 30 pounds and send it to the distribution header at 300 pounds. It is directly from this header that the wells are operated. A regulator on the in-take line to the high pressure compressors is controlled by the pressure on the discharge line to the header and, in turn, automatically acts as a control of the quantity of gas required to maintain the entire system. If the wells require more gas, the regulator allows the compressors to feed an increased amount to the header.

The main distribution header is one of the largest and most complete used in California. It consists of 35 units and

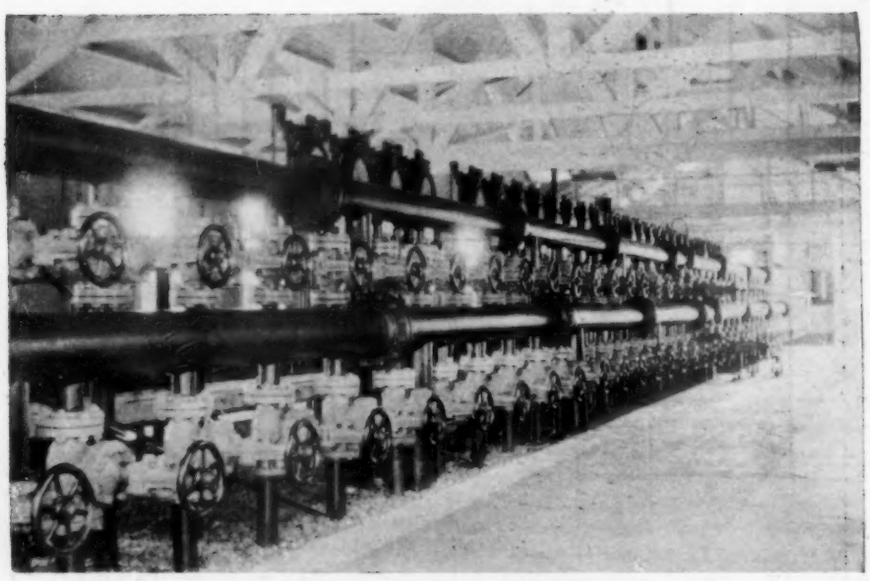




Worthington Compressors



View of the Compressor Plant



Main Distribution Header

may be used to operate as many wells. Two 10-inch lines run the full length of the header house, the upper being used to flow the wells under ordinary circumstances and the lower line for "kicking over" stubborn wells. A well may be quickly changed from one line to another. A steam booster plant is used in connection with the lower 10-inch line. These steam pumps pick up the gas from the high pressure compressors and build up the pressure to 800 pounds. The same flow lines to the well are used by both header lines.

The gas discharged from the header is carefully measured by individual Westcott orifice meters. A Robinson orifice fitting is also used on each well line. All lines leading from the header to the wells are of three-inch construction. Some of the wells are one and one-half miles from the plant.

A straight gas lift is used, a constant pressure being applied 24 hours per day. In nearly all wells, the gas enters the casing, forcing the oil from the tubing. It is sometimes necessary to reverse the flow, however. By elevating the gas trap, a very low trap pressure is maintained. This also allows the oil to flow from the gas trap to the storage tanks by gravity.

A careful check against the quantity of gas required to flow the wells is made by metering the gas from the traps. From the traps, the gas is again drawn to the low pressure compressors at a 10-inch vacuum, thus completing the closed circuit. The gas recovered is practically as "wet" as that produced by pumping, proving that the dry gas not only flows the wells but makes a large production of gasoline possible.

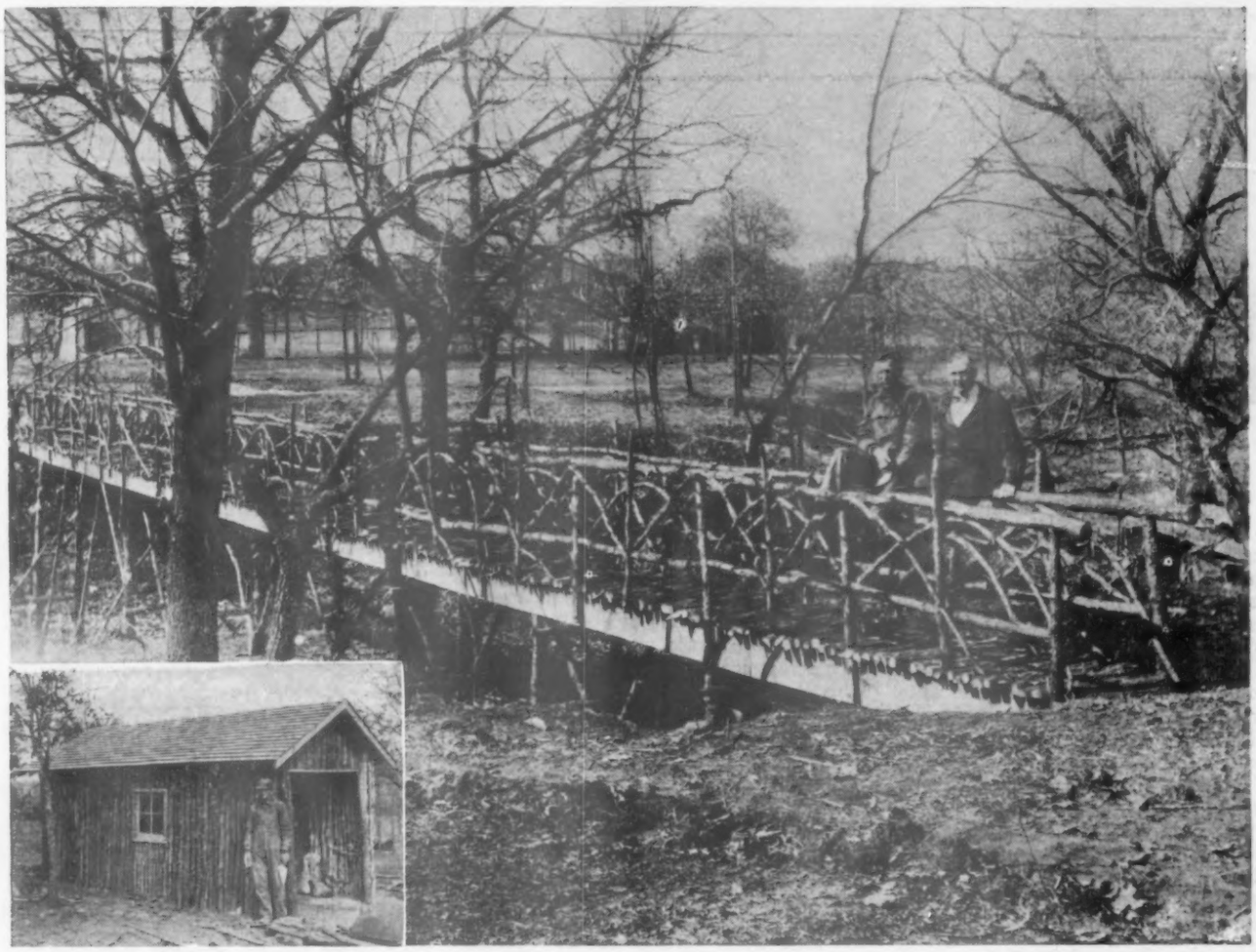
The 20 wells now being produced by the gas lift system require about 15,000,000 cubic feet of dry gas, or about 750,000 cubic feet per well. Some of the wells require much more gas than others, just as some produce more than others. It is not always the well requiring the greatest amount of gas that produces most, however. The average production is about 125 barrels per well. The wells are producing about one-third more gas than they require through the gas lift system.

The chief control in this closed circuit lies in the depth of the wells, the size of the tubing, the volume of gas circulated and the back pressure in the well. There are many other factors which affect, more or less, the production obtained. These are not of a mechanical nature, however, and consist chiefly in the wells themselves. It is very necessary to keep the back pressure at a minimum.

Union Oil Company has found that the central power unit embodied in the gas lift system and the elimination of pulling rods and tubing have effected a large saving over the older methods. The gas-oil ratio is also reduced, making for a greater ultimate recovery.

After more than two years of satisfactory service, union Oil Company has found its gas lift installation a decided success.

Picnic ground or producing property? Take your choice---it works admirably as both



This Oklahoma Lease Is Example Of Real Operating Economy

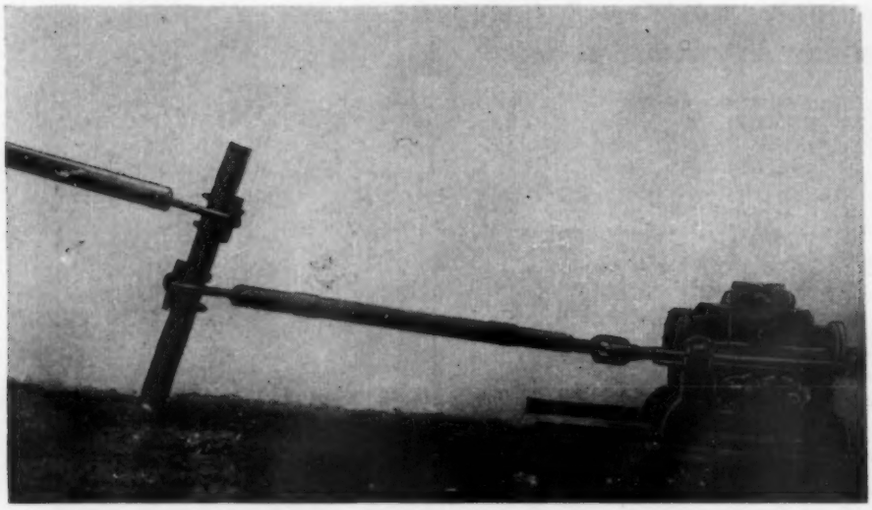
By WALLACE DAVIS
Staff Representative

MAKING two natural impediments to field development eliminate each other to a beneficial end must certainly come under the class of operating efficiency. For instance, there are leases covered by dense thickets and cut by deep ravines which combined, make transportation of materials difficult. How about using the trees to build bridges over the ravines? And if there are any choice logs left you might build a garage or some rustic furniture.

This type of work is one of the numerous jobs along economical lines Dixie Oil Company has performed on its Manford, Oklahoma, property to cut costs and increase efficiency. Besides taking care of the business end of the lease to every possible advantage, the operators have made it a show place that people drive 35 miles to use for an outing.

The property is Dixie Oil Company's 80-acre tract, the south half of the southeast quarter of Section 7-19-9, Creek County. The company is pumping 250 barrels of oil from three wells in the 2850-75 foot sand with a separate unit on each well, for 10 cents per barrel lifting cost. Since the first well was completed in December, 1927, the lease has produced 93,000 barrels to November 1 and made no b. s. nor water. It has furnished its own gas for pumping fuel after netting a half interest in approximately 750 gallons natural gasoline daily from wet gas farmed out for stripping. The gas yields two gallons of gasoline per thousand feet and regular gas production from the lease is 275,000 feet daily.

H. G. Nething, Dixie Oil Company's production superintendent in the Manford district, followed conservative measures in having the pay sands drilled, taking only 11 feet of sand in one well and 12 feet each in the other two, and thus avoided the water trouble encountered in wells on two sides of the Dickson lease. Development of the property was also conservatively worked out, and considerable drilling costs were saved by drilling one well at a time. Numerous water sands in the Manford field necessitate the setting of five strings of pipe, three of which are pulled after drilling. On the Dixie Oil Company lease the same big strings were used on all of the wells. Painting of the



This pump and the power borrowed from a rig moves the oil to the pipe line.

pipe following each job has helped to keep it in good shape for more drilling.

A specially built separator serves the Dickson lease as a receiving tank to which a lead line runs from each of the three wells. For the purpose of taking individual well gauges periodically all of the lines are hooked onto a by-pass and the well to be gauged can be switched by a valve direct to the stock tanks. The withdrawal line into the separator enters near the top and drops down into the fluid, keeping all gas out of the tank battery. Wet gas taken from the top of the receiving tank is carried to a neighboring gasoline plant for treating, and the residue is returned for fuel in pumping, drilling and heating.

Mr. Nething has changed the tubing pulling job at Manford to a rod pulling job and even stretched the latter job to about four to five months' interval. When his regular working barrel failed to function he substituted a small Oil Well plunger, running it into the well on the rod string and seating it inside the old working barrel. Now, when either the top or bottom valve goes wrong, the rod pulling job is all that is required. This small plunger is good for 90 barrels production daily. He has further substituted the regular barrel cups with Landis repacks, carrying a spring that spreads the repack as it wears. This arrangement has done away with even rod pulling jobs for the past four months.

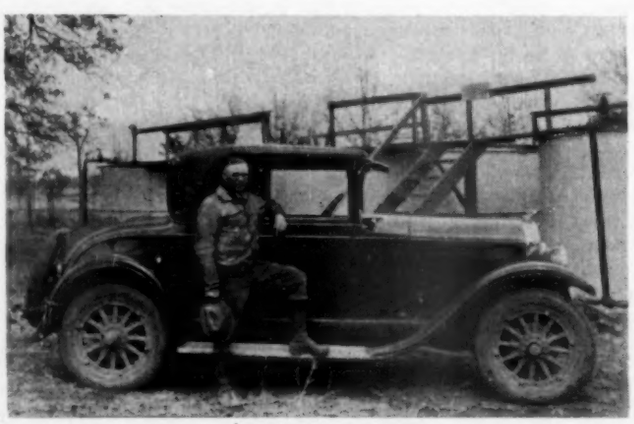
Through the co-operating of Sinclair Pipe Line Company the Dixie Oil Company's crew at Manford has eliminated another routine job and materially increased efficiency on the Dickson lease. Formerly the crude from the stock tanks was pumped to Sinclair Pipe Line Company's main at Drumright, 22 miles distant, by steam pump. This necessitated firing the boiler each morning and required considerable of one man's time. Recently a small double-action Grimes pump has been set on a concrete block beside Dickson No. 1 pump house and a hook-up made with the crank on the band wheel shaft. Now the crude is moved 24 hours a day with no extra load on the pumping engine, and the job requires no attention. This small pump has a capacity of moving 280 barrels daily. By a simple welding job a power arm made of three-inch scrap pipe is coupled onto the pump. This connects onto a rocker-post made of four-inch pipe formed in a "T" with the "T" section resting on a concrete block and working back and forth in clamps made of five-inch pipe. A second power arm made of three-inch pipe connects to the rocker-post and extends to the band wheel shaft.

A 30-horsepower Oil Well gas engine is used in pumping each of the three wells.

Drilling water was scarce on the Dickson lease when development was started, and water for the first well had to be bought. Superintendent Nething took advantage of a ravine crossing the lease and built a small concrete dam. Rain water backed up in the ravine has supplied the lease with ample fresh water for the past seven months.

Spare hours of the crew have been well applied to make the Manford property one of the most sightly leases in Oklahoma. Rocks that were ordinarily a hindrance have been used to make beautiful walks and chat from ravine beds on the lease spread along these walks have solved the mud problem. In laying water lines the crew strung the pipe under the base of the bridges in crossing ravines and boxed the lines in to prevent freezing. Safety rails and board walks line the top of the pump houses as well as the battery of tanks, and substantial stairways have replaced ladders. No smoking signs near fire hazards and scraps, signs labeling open painted gasoline drums sitting around the lease, gives the property the safety and clean appearance. Flower beds and boiler houses might not have anything in common in the lives of a lot of roustabouts, but this lease looks like a garden in the summer months.

The popularity of Dixie Oil Company's Dickson lease has made it a rendezvous for pleasure seekers. There is a warm welcome from the crew, tables for picnic lunches, gas flares for night parties, a brick fire box with a stove top for frying steaks and cooking coffee with natural gas heat, and lawn furniture built from the leases own trees.



H. G. NETHING

The California Company Buying Leases

Big Spring, Texas.—The California Company is negotiating for the purchase of two 80-acre leases with four shallow pumpers making 100 barrels of oil daily in the Chalk-Roberts field, Howard County, from the F-H-E Oil Company for a consideration of $400,000, including oil payments. The production is confined to to lease "A," which consists of the north half of NE Section 156, Block 29, and the other 80-acre lease is located in the south half of SE Section 137, or due north of the above. The California Company recently acquired the north half of SE Section 137 for $125,000 cash and a similar amount payable from oil produced, and if the above trade with F-H-E Oil Company is consummated the buyer will have three 80's in a row.

The California Company is a subsidiary of Standard Oil Company of California, which also controls 62½ per cent. interest in the Col-Tex Refining Company. The latter concern has a 7000-barrel daily skimming plant at Colorado, Texas, and is dependent upon Mitchell and Howard County crude for a supply. The lease purchases are understood to be in protection of crude supply for this plant. The Anderson-Prichard Oil Corporation, Oklahoma City, owns the balance of the interest in the Col-Tex Refining Company, and has operating control of the refinery.

Houston.—The Gulf Supply Company has moved from 1020 North San Jacinto Street to the C. E. Musselwhite Building, 1207 Maury Street; and will keep the same telephone number Preston 1335. This new location on Maury makes a total of seven supply houses on that street, which is sometimes referred to now as "Supply Row." The Gulf Supply Company now maintains day and night service.

Second Oklahoma City Test Nears Gas Sand

Operators have not definitely settled on plan for holding back development and it may extend to town lots; Oklahoma generally quiet

By WARREN BAKER
Staff Representative

TULSA.—Field development in Oklahoma lacked color over the Christmas and New Year holidays. The most important event was the increasing production in the Greater Seminole district as a result of sustained output in the older regions and a larger recovery at Maud.

Greater Seminole production reached its highest peak in some time when it made 285,027 barrels on last Saturday. The Maud field did 25,976 barrels on this day. The following day it increased to a new peak of 26,004 barrels. Monday the recovery of Greater Seminole had slumped to 284,076 barrels with Maud doing 24,568 barrels. Other fields produced as follows on Monday:

Little River, 86,376 barrels;
Mission, 705 barrels;
Bowlegs, 45,124 barrels;
Earlsboro, 75,896 barrels;
Seminole proper, 42,394 barrels;
Searight, 9013 barrels.

Finding of two new producing horizons in the eastern part of the Maud district were the features of that area. Prairie Oil & Gas Company's Billington 1, SW NW Section 11-8-5, offsetting to the east the old Indian Territory Illuminating Oil Company's Simpson 1, in Section 10-8-5, flowed 1935 barrels in 24 hours from the Misener sand at 4050-60 feet. The same company's Billington 2, NW SW Section 11-8-5, did 400 barrels in 17 hours from the Hunton lime at 4020 feet, after penetrating the formation at 3998 feet. No Misener sand was found in this test.

The Misener and Hunton formations have been productive in western Maud since its discovery, but this is the first time that commercial production has been found in these horizons in eastern Maud. The two wells are along the north edge and may result in a play for these formations to the north of the present Wilcox sand wells.

Wilcox Wells

There were two Wilcox sand completions at Maud during the week. Barnsdall Corporation's Coker 1, SE SW Section 11-8-5, swabbed and flowed 1225 barrels in the first 20 hours from Wilcox sand at 4316-26 feet. This well is the north offset to the Maud field Wilcox sand discovery producer.

Phillips Petroleum Company's Keeman 1, SEc Section 6-8-5, northern edge of western Maud, found a hole full of water in the Wilcox sand from 4462-76 feet. This well also failed to produce in the Misener and Hunton lime formations found productive half a mile south. It is the fourth test to be drilled to the Wilcox sand in the north part of West Maud —none of which have found commercial production.

Amerada Petroleum Corporation's Gossland 1, NEc SW Section 8-8-5, which last week encountered water in the Wilcox, has been plugged back to 4322 feet in the Simpson sand. It did 85 barrels from the Simpson and 645 barrels from the Misener sand.

To the southeast of Misener sand production in western Maud, T. B. Slick, Inc., and White Eagle Oil & Refining Company have a hole full of oil at 4267 feet in the Misener. This test is Villines 1, NW SE Section 20-8-5.

Second Oklahoma City Test Nears Gas Sand

Interest in the Trosper Park field south of Oklahoma City was centered in the Indian Territory Illuminating Oil Company and Foster Petroleum Company's Trosper Park 1, C NE SW Section 13-11-3w, as it neared the first gas sand encountered in the same companies' Fee 1, some distance southeast. The well is now near 3900 feet, and is thought to have but a short distance to drill. Every showing in this test will be thoroughly tested. It means much to the general play in the vicinity of Fee 1, the gusher well, as it will through correlation, tell much of the size of the structure.

The discovery well, C SE SE Section 24-11-3w, continues to do better than 5700 barrels. It has been deepened to 6497 feet, in a hard sandy lime. In the meantime operators in the area continue to try to arrive at some sane and fair exploration program. Several new tests were announced while the meetings were under way.

A distillation analysis of the oil produced by Fee 1, by the Bureau of Mines, shows that it has a paarffin base similar to that produced in many eastern states. The oil has a specific gravity of 0.837; sulphur content 0.16; saybolt universal viscosity at 70 degrees F., 57 sec; at 100 degrees F, 45 sec; A. P. I. gravity is 37.6, and has a pour point of 10 degrees F; with color green.

St. Louis Very Quiet

Interest at St. Louis is now centered in the possible extensions that may be made in that district. Magnolia Petroleum Company's Latimer 1, SE SW NW Section 17-7-4, northwest of the field. This well is drilling at 4200 feet in the Sylvan shale penetrated at 4185 feet, and is considered to have a fair opportunity of finding production providing that the Viola lime does not thicken up. It will go to the Wilcox sand.

T. B. Slick's Davis 1, SW NW NE 18-7-5, north extension well to east St. Louis, flowed 5362 barrels natural with the tools in the hole. Slick's Genin 1, same section, is not having such fine luck. It has 350 feet of oil in the hole and a show of water from 4267-68 feet.

Logan County Production Increases

Northwestern Logan County may yet develop into a major pool after having been bidding for two years. The daily average production of the district during the past week was 17,493 barrels from 28 wells. This is an increase of 6037 barrels over the previous week and is a new peak.

Shell Petroleum Corporation's McCully 4, Section 30-19-4w, is largely responsible for the increased recovery. It came in for over 3400 barrels, and is the largest producer yet completed in the field.

There are 24 drilling wells, three locations and rigs in the field. Other tests are expected to be started as a result of recent completions. Among the drilling wells are several that will extend the producing limits of the field should they encounter oil.

Superior Oil Corporation's important wildcat in Section 24-8-2e, near Macomb in Pottawatomie County, has drilled by 135 feet of the casing lost in the hole and now has but a short distance to go. The company has been taking about all the leases it can secure in the vicinity of this well, which is expected to make a Hunton lime producer.

Los Angeles.—A leasing campaign which equals any of the several in the past is under way in the Hawthorne district, where a 1000-barrel well was recently completed 500 feet northeast of the discovery well. Both townlots and small acreage is being leased within a radius of one mile of the present production. Standard Oil Company and Union Oil Company are active and probably will drill one well each during the early spring months.

Yates Field Widened at Center; Well Making 400 Barrels Hour

By H. H. KING
Staff Representative

SAN ANGELO, Texas.—The south central edge of the Yates field was widened nearly one-half mile to the south Sunday when Gulf Production Company's M. A. Smith 13 flowed 400 barrels of oil per hour from big pay at 1485-90 feet. This well is located in the northeast part of Section 22, and showed for only a small producer of 28.5 gravity oil from the upper pay horizon topped at 1319 feet after logging the brown lime top at 1284 feet. The top of the gray lime was encountered at 1447 feet. McMan Oil & Gas Company's Smith 4-C promises a slight extension to the southwest edge of the field, and during the past week struck a 30,000,000 cubic foot flow of gas at 1480-95 feet.

The 25,000 barrel increased proration allowance assigned to the Winkler County fields effective January 1 will enable the operators to produce a maximum of 175,000 barrels daily, with some excess due to temporary injunction restraining proration enforcement on two separate properties. Estimated potential production of the Winkler County area at the close of the year was placed at 2,655,707 barrels from 468 wells on production at that period, according to Umpire Alsobrook. These wells will be allowed to produce at average rate of 374 barrels daily during the first 15 days in January, while the daily allowance for all the wells is 6.6 per cent. of their combined estimated potential. There were 116 wells gauged on brief open flow tests, and downward revisions were made on most of those not gauged for the new period, but it is common knowledge among members of the producing fraternity that actual production in Winkler Conuty is not available in the quantity indicated by the potential production figures.

Efforts waged by a group of the operators in the Yates field to have a larger daily proration allowance allotted along with the increase given the Winkler County area has been deferred by the Railroad Commission until a later date. The Yates field has been allowed to produce a maximum of 72,500 barrels daily since September 1, 1928.

The O'Brien and Llano-Daugherty pools in Winkler County are not fulfilling expectations, and a northeast offset to the discovery well of the O'Brien pool developed a show of sulphur water late last week without making oil or gas at the expected horizon. This disappointment came from Barnsdall Oil Company's Tobe Morton 1, which began showing water at 3128 feet, and further progress has been halted by a fishing job. L. H. Wentz Interests' Tobe Morton 1, located a short distance north of the discovery well, is drilling ahead at 3004 feet with a hole full of oil after passing up first show at 2745-60 feet, with an increase at 2842 feet.

Progress in the Llano-Daugherty pool was delayed during the past week, owing to the customary shutdown for the holidays. Empire Gas & Fuel Company's Daugherty 3 lost a rig by fire at 2846 feet, while the same company's Daugherty 2 developed a 15 million cubic foot flow of gas at 3090 feet. The original pumpers in the Llano pool are to be restored to active production shortly, as the Shell Petroleum Corporation is laying a four-inch line from the two wells, which are owned jointly by Shell and Llano Oil Company, to make connection with the Humble Pipe Line Company's eight-inch line on the Daugherty land. Shell and Llano have been paying advance royalty for some months rather than operate the wells and store the oil in the field. Magnolia Petroleum Company's Scarborough 1, located east of the above pumpers, swabbed 35 barrels of oil and considerable froth and foam from the upper pay at 2862-87 feet, but is being carried down to the lower horizon to try for a larger producer.

Texon Oil & Land Company's University 1-B, Group One, which has recently placed the Big Lake field in the spotlight through having the deepest production in the world, continues to reach new levels on oil production, and during the 24 hour period ending December 31 made 1302 barrels of 53 gravity (corrected) oil from the 8500-8523 foot level. The last test of the gas flow was taken Friday, and it showed a slight drop, thus indicating that further gains in oil production may follow, although heretofore both oil and gas have been increasing almost daily. The latest gas test credits the well with making 12,400,000 cubic feet daily.

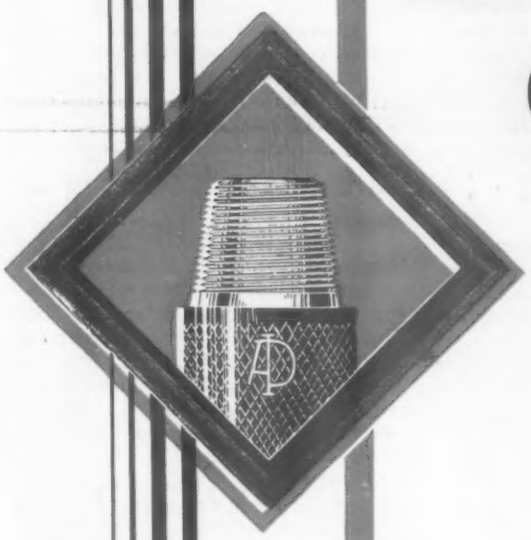
Howard-Glasscock County Wells Making Water

BIG SPRING, Texas.—Crude yield from the lime horizons covered by proration enforcement in the Howard-Glasscock County area amounted to 2,197,561 barrels from starting of proration on August 25, 1928, to December 16, according to E. E. Andrews, umpire, while the oil produced from the deep pays prior to the placing of the field on a proration basis brings the total recovery to slightly more than 2,450,000 barrels. Magnolia Petroleum Comapny's Dora Roberts 1, which uncovered the 2900-foot pay October 24, 1927, produced 217,400 barrels before another producer was drilled to the deep pay early last February when voluntary shut-in agreements went into effect. This discovery well continues to pump 950 barrels daily, with no water trouble. Excepting Magnolia Petroleum Company's lease, which was served by field storage, all deep wells in the field have produced under proration enforcement rules established by the Texas Railroad Commission, as no market was available for this deep oil until proration became effective.

Producing wells in the deep pays numbered 47 on December 16, and all have operated on the pump during the period of proration enforcement, except when swabbing tests are made to establish the first proration initial. Gas pressure is not adequate to flow these wells. The average yield per well is now 46,756 barrels each, based on the figures released by Umpire Andrews for the period of proration enforcement.

The American-Maracaibo Company, which acquired the properties of the Henshaw Oil Corporation, is credited with having recovered 64,116 barrels from one producer from November 16 to December 16, but a special production allowance was granted this well because of it opening a new area to the west of the original field with a better grade of oil. The Coyle-Concord Oil Company's single deep producer is credited with having recovered 60,911 barrels during two and a fraction months, while the Schermerhorn Oil Company ranks at the top of the list on average recovery per well, as its four deep producers have produced 357,701 barrels, or an average of 89,425 barrels each. The joint 160-acre lease of Cosden & Company and Owen-Sloan Company nearly equals this record with a recovery of 351,305 barrels from four wells. The Laurel Oil & Gas Company operates in the field as the Owen-Sloan Company.

About one-third of the producing wells in the deep pays are making water in volume ranging from five to 90 per cent. of the fluid handled, and an organized effort is now being waged by the operators and conservation authorities to curb this menace to the field. The allowable production from the deep pays was increased to 35,000 barrels daily effective December 16, representing an increase of 5000 barrels over the previous allowance, but this was due to increased activity in the Henshaw-Settles area to the west of the original deep area.



The Brewster Company

A. P. I.

wedge thread Rotary Tool Joint will not back off going into the Hole

The A. P. I. tool joint has been universally adopted by all companies and operators as standard equipment. Sizes are given in A. P. I. dimensions. All sizes are carried in stock for *immediate* shipment.

Warehouses

OKLAHOMA CITY HOUSTON FORT WORTH

The Brewster COMPANY~INC.

SUCCESSORS TO OIL CITY IRON WORKS INC.

Shreveport, Louisiana

Gulf Coast Field Development Notes

Texas Company Starts Work in South Louisiana

Houston.—As its first step in carrying out the agreement which it made recently with the Louisiana Land & Exploration Company covering the development of extensive salt dome properties in South Louisiana, The Texas Company has obtained permits for one test on the East Hackberry and the South Calcasieu Lake domes, Cameron Parish.

The test on the newly found dome in the southern part of Calcasieu Lake, where the Louisiana Land & Exploration Company's Calcasieu Lake A-2 hit cap rock at 1492 feet and drilled into the salt. The new location is for Calcasieu Lake A-3; the plan of numbering the wells established by the Louisiana Land & Exploration Company being continued by The Texas Company. Location of the test is 9283 feet west and 3020 feet north of the northeast corner of Section 1-14s-9w in 13s-9w.

The other new location of The Texas Company is on the East Hackberry dome, about 14 miles north of the dome in the south part of Calcasieu Lake; the East Hackberry dome lying also partly under Calcasieu Lake in the north end of that body of water. The Louisiana Land & Exploration Company had already made a producer of one test on that dome, Calcasieu Lake B-3, when it made the agreement with The Texas Company transferring the property; and the new location of The Texas Company, Calcasieu Lake B-4, also following the already established system of numbering, is in the vicinity of the producer. The foot measurements of the B-4 are: 1170 feet east and 410 feet north of the southeast corner of Section 13-12s-10w.

The Calcasieu Lake B-3 of The Texas Company and Louisiana Land & Exploration Company is now flowing around 1050 barrels net oil per day. It was completed late in November, 1928, as a half-mile eastward extension of the East Hackberry field.

Irregularity of Hackberry Area Demonstrated

Houston.—Completing Valery 5 at East Hackberry, Cameron Parish, Louisiana, as a 1200-barrel well, Calcasieu Oil Company has again demonstrated the exceptional irregularity and abruptness of the edge of production in that field. This well has a total depth of 3868 feet, with 6⅝-inch casing set at 3834 feet; its initial production when completed the latter part of the past week was 1200 barrels, 22 gravity, pipe line oil. It is only 80 feet south of the company's Valery 4, which recently drilled into salt at 3670 feet. Valery 4, in turn, had been only a short distance northeast of the same interests' Valery 3, one of the best wells of the field.

A similar irregularity has been shown all along in the operations at East Hackberry, the irregularity of the sands and of the periphery of the dome necessitating extraordinary thoroughness and accuracy in making locations. This is perhaps the most irregular dome in the Gulf Coast. Every test is virtually a wildcat.

To aid in meeting this problem of the irregularity of the structure, the Calcasieu Oil Company is finding the torsion balance valuable. The locations of the wells on the Valery lands were based in large measure on a torsion balance survey.

Salt Flat Production 9934 Barrels

Houston.—During the 24 hours ended 7 a. m. December 29, the total production in the Salt Flat (Bruner) field, Caldwell County, was 9934 barrels, a new high mark.

Wells completed during the past week included three by the Gulf Production Company and one by M. K. Towns. Gulf Production Company's W. L. Smith 1 is flowing 300 barrels through 2½-inch tubing from the Edwards lime at 2694-2725 feet; W. L. Smith 2 is flowing 600 barrels from the lime at 2594-2697 feet; and Connally 5 is flowing 700 barrels per day through tubing from the Edwards at 2703-22 feet. M. K. Towns' Hickman 2 is making 40 barrels per day from the lime at 2699-2717 feet.

Sun Starts Shipment from Washington County

Dallas, Texas.—Having completed and tested the small crude line extending from its Clay Creek field, Washington County, Texas, to a tank car rack at Gay Hill, the Sun Oil Company was scheduled to begin shipments of crude this week from its discovery well. The oil will be shipped via the Santa Fe railroad to Sun Station, where facilities will be available for loading tankers to deliver the oil to the company's Marcus Hook plant. Six miles of four-inch line was required to reach the railroad from the Clay Creek field.

Sun Oil Company's Geo. F. Grote 1, which opened the Washington County interior dome early last October making 65 barrels of 25-26 gravity oil daily at 1140-54 feet, was recently deepened to 1474 feet for a substantial production increase, but also encountered water. The hole was cemented back to the 1400-foot level, and late last week was flowing 600 barrels daily while cleaning out heavy rotary mud used in deepening. This oil is to be handled by the pipe line. Grote 2, which is located 688 feet northwest of the discovery well, probably will not be placed on production until the 55,000-barrel tank now being erected on the property is completed, as its flow was in excess of 200 barrels of pipe line oil per hour at 970-1392 feet when tested and shut in November 12.

Having missed the shallow production in tests drilled on the east and west flanks of the discovery lease of the Clay Creek field, Sun Oil Company is making a deep test of both. Einman 1 was shutdown to repair boiler late last week at 2598 feet after cementing eight-inch casing at 1782 feet, and Marcus 1, located west of production, was drilling at 2925 feet. Rotary rigs were completed for the drilling of H. Whitt 1 and J. Grote 1, both being north and northeast of production.

Four Wells Producing at Raccoon Bend

Houston.—Humble Oil & Refining Company and Valley Oil Corporation completed their fifth deep producer at Raccoon Bend, Austin County, when Bracey B-1 came in the latter part of last week making 1200 barrels of pipe line oil, 31.5 gravity, from 3357 feet. The oil registered 70 degrees temperature, and the well showed 125 pounds pressure.

Bracey B-1 is 600 feet west and 200 feet north of Bracey A-1, which was completed last August for 725 barrels of pipe line oil at 3330 feet, and is now producing around 130 barrels per day. These wells on the Bracey land constitute the most northerly production of the field. They are over a mile from the Gotosky and Grawunder wells in the southermost part of the field.

Although the Humble and Valley companies have completed five producing wells from the pay around 3300 feet, one of them, Gotosky 2, the discovery deep well, has been abandoned.

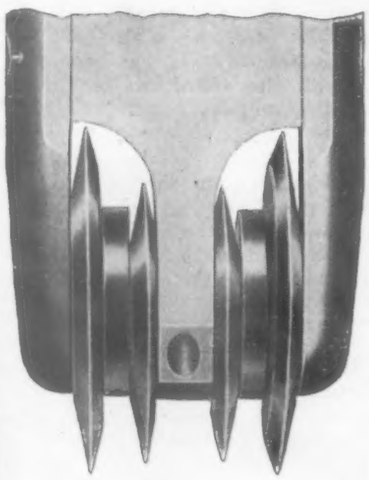
Rigging to Pump Gonzales County Wildcat

Houston.—Empire Gas & Fuel Company's Norwood 1, discovery well of the Ottine area, northern Gonzales County, was reported on Monday of this week to have made 250 barrels in the preceding four days without agitating, flowing by heads. The company is rigging up pumping equipment to put the well on the beam, and expects it to produce around 500 barrels a day.

Cranfill & Reynolds have a derrick up for Webb 1, which is located 600 feet from the discovery well. The Empire Gas & Fuel Company has extensive acreage in the area, but some close-in land is held also by Humble Oil & Refining Company, Pure Oil Company, The Texas Company, Simms Oil Company, and others.

The discovery well is just off the Luling-Gonzales highway, near the Gonzales-Caldwell county-line. It is producing from a sandy shale in the base of the Taylor marl at 3779 feet.

A REMARKABLE BIT *if there ever was one*



The Guiberson Disc Bit has won for itself a reputation for excellence that is nothing short of remarkable. Reports of phenomenal speed and straight holes, at low cost per foot, come to our ears daily—supplemented by the warmest praise of this greatly advanced drilling tool. To have attained, in so short a time, such a definite place in the regular equipment of contractors and operators, is a powerful demonstration of worth.

Note that this bit has four discs. These discs are not rigidly set but have a wobbling motion which gives a far better cutting action. Space between discs is self-cleaning, due to large discs being on different centers from small. Reamers in cheek plates keep hole reamed close to bottom. Flushing channels extend to extreme bottom of bit, keeping bottom of hole clean for cutters. Head of bit is flat on two sides, providing ample space for passage of water and cuttings. Fully patented.

"Better Be Safe Than Sorry."

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

California Branch: 1506 Santa Fe Ave., Los Angeles

402 W. First St., TULSA | 321 Osage St., PONCA CITY | 406 Trust Bldg., NEWARK, O.

GUIBERSON

BETTER BE SAFE THAN SORRY — UIBERSON

Personal Mention

Ben K. Howard, commercial manager for the Texas Power & Light Company, died in a Dallas hospital December 25 after a brief illness, and funeral services were held December 27, with interment at Dallas. Mr. Howard had a host of friends among the producers and pipe line companies in North and Central West Texas, having made contact through his company supplying electric power.

George Eugene Sweeney, field foreman for the Sun Oil Company in the Chalk-Roberts field, West Texas district, was married to Miss Mary Margaret Fay in Dallas, December 26. The couple will make their home at Big Spring, Texas, after their honeymoon.

J. P. Fox and **Milo Orr,** geologists for the Richmond Petroleum Company of Mexico, a subsidiary of Standard Oil Company of California, spent the holidays at Dallas. Field headquarters are maintained at Laredo, Texas, but the work of the above two geologists carries them far into the interior of Mexico.

K. H. Crandall, geologist for The California Company in the New Mexico district, with headquarters at Carlsbad, visited the southern district headquarters of the company at Dallas last week.

Barney B. Hayes, chief scout of the Skelly Oil Company, is confined to the St. Johns Hospital in Tulsa, with a bad case of sinus trouble following an attack of influenza.

R. J. Rogers, Mid-Continent representative of the Kansas City Hay Press Company, died at his home in Tulsa, December 25.

C. W. Sipler has been named Mid-Continent representative for the Victor Balata and Textile Belting Company of New York and will have his headquarters in Tulsa.

P. B. L. (Fauncey) Barker of the Oil Well Supply Company has been transferred from Tulsa to Luling.

E. A. Richards, who has been connected with the Tulsa with the Tulsa sales force of the Emsco Derrick and Equipment Company for sometime, has been transferred to the Dallas office of the company. He will act as assistant to General Manager L. R. McCollum. Walter G. Fitzpatrick, formerly connected with the National Supply Company in Tulsa, and later special sales representative of the Emsco Derrick and Equipment Company organization has been promoted to the position of district manager of the company at Houston.

Mrs. Elena G. Delcuze, mother of L. E. Delcuze of Houston, died in a hospital in Houston, December 27, following a brief illness. L. E. Delcuze is assistant to the vice-president of the Gulf Production Company, and assistant secretary of the Gulf Pipe Line Company and Gulf Production Company.

W. L. Connelly, formerly in charge of the operations of the Mammoth Oil Company at Teapot Dome, with Casper, Wyoming, headquarters, has been elected to the directorate of the Venezuela Petroleum Company.

J. H. Jenkins, vice-president and manager of Texas, Louisiana and New Mexico operations of the Tidal Oil Company with headquarters at Fort Worth, departed early this week for California.

Ben C. Belt, chief geologist for the Gulf Production Company in the North Texas district, with headquarters at Fort Worth, has been transferred to Houston.

T. M. Kerr, Beaumont representative of the Lucey Products Corporation, has just returned from a trip to the home office in Tulsa.

C. R. McCollom, California representative of Prairie Oil and Gas Company, and until a year ago chief geologist for Union Oil Company, has accepted a position as chief geologist and head of the land department of the newly formed Pacific Western Oil Company.

Beaumont, Texas.—During November the Sun Oil Company's total coastwise water shipments from Sun and Sabine Pass amounted to 529,744 barrels.

Lon D. Cartwright, Jr., formerly in charge of the subsurface laboratory of The California Company at Colorado, Texas, has resigned that position and accepted a place on the geological staff of the Superior Oil Company of California, with offices at Carlsbad, New Mexico.

Los Angeles.—Union Oil Company has shipped a complete drilling outfit from California to Astoria, Oregon, preparatory to drilling a well just north of the Columbia River, in Washington. The company has leased a large acreage near McGowan, Washington. All heavy equipment was shipped from San Pedro harbor to Astoria.

U. S. Proportion of World Output Declines During 1928

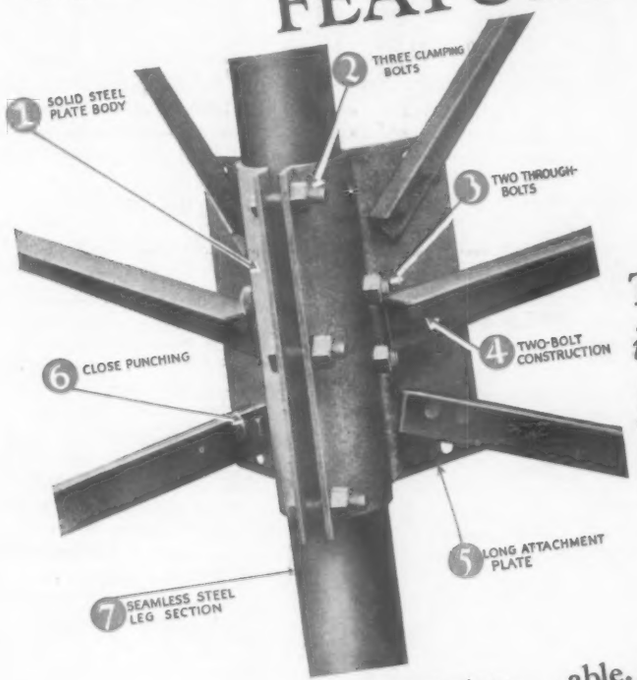
(Continued from page 28)

of new oil wells completed during 1928 aggregated 6,735,212 barrels during 1928 as compared with 4,628,246 barrels during 1927, when considerably more producers were completed. Texas led all states in the quantity of new oil produced, which resulted in placing the output of that state at the head of the list.

These figures are interesting, although only preliminary, as they serve to show the trend of the world's production of petroleum. The figures for the United States are significant of the conditions which prevailed in the various producing states during the past year. Last minute reports from California and West Texas give conclusive evidence that the industry can expect further sharp gains in production during the early part of this year. This furnishes proof of the immediate need for action among the producing interests of those two states. Oklahoma has furnished an outstanding example of the benefits to be obtained by proration. Unless other states adopt similar measures at an early date, the entire industry must necessarily suffer the consequences. All of the improvement made in Oklahoma is frustrated unless California and Texas adopt immediate restrictive measures. One price boost has been entirely wiped out of the program as a result of over-production in California and Texas. Continuation of present conditions in those states indicates that the next step will be a price cut. The law of supply and demand cannot be underestimated when it becomes necessary for it to function. Proration will solve the petroleum industry's problem; it is up to the producers to consider its possibilities as a means of improving their own situation. Unless the industry takes concerted steps to correct the overburden that now exists in California and West Texas, the law of supply and demand will step in and force a natural correction by exerting a weakening influence upon the crude price structure.

Houston.—In the Sugarland field, Fort Bend County, Humble Oil & Refining Company now has over 4500 barrels daily production from four wells. Sugarland Industries 1 and 3 together on Monday of this week made 1360 barrels. Number 1 was the discovery well of the field, having been completed the latter part of March for 800 barrels initial production; No. 3 was brought in for 3000 barrels initial late in September. Sugarland 2, which according to the recent report was making 1606 barrels, came in the latter part of October making 960 barrels, choked in, and showing 800 pounds pressure; it is now registering 700 pounds pressure. The fourth well, Camp 1, is now making 1615 barrels, showing 650 pounds pressure; it came in about October 1 for 1000 barrels pipe line oil through a three-eighths-inch choke, with 475 pounds pressure.

A Moore CHAMPION DERRICK FEATURE



The Moore Clamp is a strong, efficient joint for leg sections and provides a convenient attachment for girts and braces.

(1) Solid body of rolled steel plate. (2) Three ¾" bolts clamp the joint with a vise-like grip around the leg sections. (3) Two ¾" bolts through the body of the clamp and through the leg sections prevent leg sections from being pulled out. (4) Two-bolt construction is used to attach members where experience and engineering practice have proven it advisable. Elsewhere, single-bolt. (5) Long single plates for the attachment of girts and braces (6) Structural bracing, punched to a close gage, so that machine bolts cannot turn while being tightened. (7) Leg sections of seamless steel, 40-50 carbon with a minimum yield point of 45,000 pounds per square inch. This is API Grade "C" pipe—the best.

LEE C. MOORE & CO., *Inc.* PITTSBURGH · TULSA

Established 1907
NEW YORK OFFICES: OILFIELD EQUIPMENT COMPANY
30 CHURCH ST., NEW YORK, N. Y.
Stocks in All Principal Fields

DALLAS, TEXAS
HOUSTON, TEXAS
WICHITA, KANSAS

PARKERSBURG, W. VA.
CASPER, WYO.
SHREVEPORT, LA.

Moore
STEEL DERRICKS
ALL STEEL RIG EQUIPMENT

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1927	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,498,900
October	782,300	105,100	497,900	138,400	51,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January	675,450	108,300	523,300	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,800
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
Dec. 1	708,600	97,250	582,950	132,150	38,200	82,100	110,000	78,100	676,800	2,506,150	17,543,050
Dec. 8	705,300	97,950	598,750	132,400	37,750	83,950	112,000	73,150	679,600	2,520,850	17,645,950
Dec. 15	707,050	96,600	601,650	135,400	37,500	81,550	113,500	75,950	697,600	2,546,800	17,827,600
Dec. 22	704,650	96,000	607,050	740,650	37,000	80,000	115,000	74,100	703,600	2,550,750	17,855,250
Dec. 29	723,150	98,300	607,300	746,050	37,050	80,050	*114,000	* 73,050	*714,000	*2,575,650	*18,029,550
Increase	18,500	2,300	250	5,400	50	50	.....	.....	10,400	24,900	174,300
Decrease	.....	.....	.....	.....	.....	.....	1,000	1,050	.....	.....	.....

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	Dec. 29	Dec. 22
Carson County	5,800	5,900
Gray County	21,800	22,500
Hutchinson County	28,400	29,100
Wheeler County	700	800
Others	2,400	3,100
Total	59,100	61,400

NORTH TEXAS

Archer County	18,600	18,850
Burkburnett	10,250	10,000
Electra	14,200	14,150
Iowa Park-KMA	4,300	4,150
Montague and Cooke Counties	9,700	9,900
Wilbarger	30,000	31,950
Others	600	600
Total	87,650	89,600

WEST CENTRAL TEXAS

Brown County	9,700	9,800
Callahan County	3,600	3,600
Coleman County	3,900	3,850
Eastland-Desdemona	6,950	6,800
Jack County	1,750	1,400
Palo Pinto County	400	400
Shackelford County	10,300	10,400
Stephens County	7,450	7,650
Throckmorton County	800	800
Young County	8,100	8,250
Others	700	700
Total	53,650	53,650

WEST TEXAS

Crane-Upton Counties	51,800	52,100
Crockett County	2,450	2,650
Howard County	37,000	36,600
Jones County	6,200	6,300
Mitchell-Scurry Counties	2,800	2,700
Pecos County	72,700	71,800
Reagan County	18,250	18,100
Winkler County	156,200	153,650
Others	1,950	1,800
Total	349,350	345,700

EAST CENTRAL TEXAS

Boggy Creek	2,200	2,450
Corsicana-Powell	9,800	9,850
Currie	500	500
Mexia	6,200	6,250
Nigger Creek	700	700
Richland	500	500
Wortham	1,450	1,450
Total	21,350	21,700

SOUTHWEST TEXAS

Dale	950	900
Laredo District	10,200	10,000
Luling	13,500	13,450
Lytton Springs	1,000	1,000
Somerset	700	700
Salt Flat	8,350	7,750
Others	1,500	1,200
Total	36,200	35,000
T'tl Tex. (Outside Gulf Coast)	607,300	607,050

TEXAS GULF COAST

Barbers Hill	850	1,050
Batson	1,300	1,300
Big Creek	2,350	2,600
Blue Ridge	6,300	5,400
Boling	3,100	2,450
Damon Mound	950	950
Goose Creek	6,300	6,450
Hull	10,000	10,200
Humble	3,450	3,600
Orange County	3,400	3,500
Pierce Junction	14,500	11,000
Raccoon Bend	900	1,200
Saratoga	950	950
Sour Lake	3,000	3,000
South Liberty	6,200	6,050
Spindle Top	35,850	36,550
Sugar Land	4,600	4,650
West Columbia	7,400	7,300
Others	3,500	3,400
Total	114,900	111,600
Texas Total	722,200	718,650

OKLAHOMA

North Braman	2,550	2,550
South Braman	1,200	1,200
Blackwell	2,950	3,000
Hubbard	2,250	2,250
Thomas	950	1,000
Tonkawa	11,500	11,600
Garber	6,800	7,000
Burbank	24,100	24,350
Osage (outside Burbank)	26,300	25,900
Cushing	20,900	20,750
Yale Jennings	7,750	7,800
Davenport	1,700	1,700
Bristow Slick	19,650	20,100
North Okmulgee	14,300	14,300
Lyons Deaner	4,100	4,150
Cromwell	8,250	8,250
Papoose	3,600	3,600
Wewoka	5,300	5,300
Seminole	42,000	42,250
Bowlegs	46,550	46,500
Searight	9,600	9,950
Little River	85,800	84,850
Earlsboro	73,000	73,200
Duncan District	7,500	7,500
Graham	4,650	4,650
Fox	1,500	1,500
Healdton	13,450	13,450
Hewitt	8,900	8,900
Scholem Alechem	14,300	14,350
Pearson	1,650	1,800
St. Louis	136,700	129,050
Allen	28,000	28,300
Maud	26,000	17,850
Oklahoma City	5,700	...
Others	53,700	55,750
Total	723,150	704,650

CALIFORNIA*

Santa Fe Springs	...	100,000
Long Beach	...	187,000
Huntington Beach	...	50,200
Torrance	...	15,500
Dominguez	...	10,000
Rosecrans	...	6,800
Inglewood	...	27,600
Midway-Sunset	...	75,000
Ventura Avenue	...	50,000
Seal Beach	...	29,000
Others	...	152,500
Total	714,000	703,600

KANSAS

Greenwood County	24,100	24,300
Florence-Covert	950	1,000
Peabody-Ebling	3,250	3,250
Eldorado-Towanda	12,800	12,900
Augusta-Fox Bush	3,050	3,200
Rainbow Bend	1,200	1,200
Russell	3,700	3,700
Churchill	7,200	7,250
Oxford	6,750	6,750
Sedgwick	6,900	...
Others	28,400	32,450
Total	98,300	96,000

NORTH LOUISIANA

Homer	4,050	4,050
Haynesville	5,550	5,550
Caddo Light	9,450	9,150
Caddo Heavy	2,800	2,850
DeSoto-Red River	4,050	4,100
Elm Grove	600	600
Bellevue	850	900
Cotton Valley	3,200	3,250
Uranda	6,000	6,050
Pleasant Hill	500	500
Totals North Louisiana	37,050	37,000

LOUISIANA GULF COAST

Bayou Boullion	500	500
East Hackberry	5,800	4,900
Edgerly	1,000	1,000
Evangeline	950	850
Lockport	4,600	3,750
Sorrento	1,200	1,200
Sulphur Dome	3,500	3,800
Sweet Lake	1,050	1,200
Vinton	4,400	4,000
Others	850	800
Total Louisiana Gulf Coast	23,850	22,000
Louisiana Total	60,900	59,000

ARKANSAS

El Dorado	4,950	4,950
Champagnolle	11,400	10,900
Smackover Light	7,100	7,100
Smackover Heavy	52,300	52,800
Stephens	1,000	1,050
Nevada	1,550	1,400
Lisbon	1,650	1,700
Others	100	100
Total	80,050	80,000

MOUNTAIN STATES

WYOMING*

Salt Creek	...	31,900
Grass Creek	...	2,400
Elk Basin	...	900
Big Muddy	...	2,600
Lost Soldier	...	2,600
Rock River	...	2,300
Lance Creek	...	300
Oregon Basin	...	3,050
Others	...	5,650
Total	51,900	52,750

MONTANA*

Cat Creek	...	1,500
Sunburst	...	7,950
Pondera	...	1,950
Others	...	100
Total	11,550	11,500

COLORADO*

Moffats (Craig)	...	900
Fort Collins	...	2,200
Florence	...	1,300
Others	...	2,300
Total	6,600	6,700

NEW MEXICO*

Table Mesa	...	250
Artesia	...	1,100
Hogback	...	500
Rattlesnake	...	1,200
Others	...	100
Totals	3,000	3,150
Totals Mountain States	73,050	74,100

EASTERN STATES*

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	114,000	115,000

PRODUCTION SUMMARY

East of Rockies	1,788,600	1,773,050
Total U. S.	2,575,650	2,550,750

* Official details not available. Totals estimated by Oil Weekly.

Decline Tends to Offset New Wells At Santa Fe Springs

Seven completions send production upward but older wells show average loss of 435 barrels; additional acreage proven on west edge of field

By BRAD MILLS
Staff Representative

LOS ANGELES.—Three exceptional completions and four smaller wells sent production upward during the week at Santa Fe Springs, but the rapid decline of the two dozen older wells and the sudden failure of one of the best producers in the field offset the greater part of the gain. The actual average decline of the 29 wells producing from the Buckbee and Intermediate zones was 435 barrels per well per week, in addition to a lump loss of 5000 barrels caused by water encroachment.

A survey of the field showed that the current completions gave both the Buckbee and Intermediate zones a better appearance than the older wells. While some of the new wells showed a high cut, their initial production was large enough to offset the presence of water. Completions of several weeks ago declined rapidly and many showed a much higher percentage of water. When taken as a unit, the field presents a very spotted appearance. The average initial production of the deep zone wells is satisfactory, but their immediate action is not so good. Much of the water has been traced to the bottom of the sand, which does not seem to have a productive thickness of more than 200 feet in any part of the field. Two wells have included more sand, but both showed a high percentage of water. Near the edge of the sand, the formation is much thinner, one well showing water from only 25 feet of sand.

The switching of plans to first test the Intermediate zone has become more general, and the upper of the two formations is still gaining favor. The success of Union Oil Company in the Intermediate zone has confirmed its action, announced a week ago, to test the upper sand in at least eight wells. General Petroleum Corporation has followed suit and will test the Intermediate zone in several wells. Other companies are looking with favor on the sand and are coring for the formation in several wells. The Intermediate zone is much smaller in extent than the Buckbee sand, but so much thicker that most wells having a chance to include it will be tested in it.

Deep Well Makes Water

Union Oil Company has completed Alexander 14 as the most sensational producer in either deep zone. The well was drilled to 5540 feet and came in with an initial production of 8800 barrels. The oil showed a cut of 30 per cent., however, bringing the net production to 6200 barrels. This well was completed immediately after the company reached a decision to test eight or 10 wells in the Intermediate zone, provided Alexander 14 made a satisfactory showing. With completion of this well, the Intermediate zone more than satisfied the curiosity of the Union Oil Company, and the full quota of wells which depended upon the contingency of the first completion will be finished in the zone. The company considered killing the well to determine the cause of the high cut, but will not do so as long as the net production is running at anywhere near the present rate. Alexander 14 is located far to the northwest of the center of the field and the performance of the Intermediate zone at this point exceeded expectations. The presence of water may have been caused by including too much sand.

Richfield Oil Company, one of the newest entries into the field, completed Howard 1 with an initial production of 7100 barrels from 5745 feet. The oil was 35 gravity and showed a cut of only two-tenths of one per cent., giving the well the distinction of being the largest net producer yet completed in either the Buckbee or Intermediate zone. Howard 1 is located in the southeast part of the field, which has consistently yielded better wells than the northwest sector.

Universal Consolidated Oil Company, already holding the record average initial production for completions to date, added to its laurels with the completion of O'Connell 2, which came in with an initial production of 6900 barrels. The oil was 34.7 gravity and showed a fluctuating cut which ranged from two-tenths of one per cent. to 11 per cent. The action of the well leads the company to believe that water is coming in around the shoe of the final water string. O'Connell 2 was completed at 5826 feet, making it considerably deeper than earlier completions. Its location in the southeast part of the field gives this area added prestige. The water trouble is the first encountered in this sector.

A very interesting completion, and one which was expected to solve the water problem in an adjoining well, was George F. Getty's O'Connell 19, which revealed almost exactly the same condition as O'Connell 18. This well was completed at 5932 feet to include a maximum of the Buckbee zone and showed a cut of 28 per cent. Approximately 300 feet of the sand was included, or roughly the same as was tested in O'Connell 18. The presence of water in O'Connell 19 adds weight to the theory that too much of the Buckbee zone was included in both wells. O'Connell 18 was completed two weeks ago at 5940 feet, after having been plugged back from 6080 feet. Gray sand proved that the Buckbee zone was completely drilled through. O'Connell 19 apparently included the same bottom sand which caused a small cut in O'Connell 18.

Ring Petroleum Company entered the select class, with the completion of No. 1 as a 2600-barrel well from 5760 feet. The oil was 34.4 gravity and clean. This well was completed in the Buckbee zone and included only a limited amount of sand and a safety measure.

General Petroleum Corporation's Santa Fe 178-A, reported as a completion last week, is still showing a cut of two per cent. The production continues at approximately the initial, however, hovering around 4000 feet. This well was completed in the Intermediate zone at 5510 feet.

Yorke and Lockhart have succeeded in placing McKeon 1 back on production, after deepening the well about 20 feet to offset the rapid decline from 2000 barrels to 500 barrels. After deepening, the initial production was 1140 barrels.

Universal Consolidated Oil Company's O'Connell 3, regarded for three weeks as one of the best producers in the field, suddenly started making water and completely died within seven hours. With a steady production of more than 5000 barrels, the failure of this well was a distinct surprise. At first it was thought that the cement around the shoe of the water string gave way, but it is now believed that water from O'Connell 2, the well's nearest neighbor which was completed only this week, has caused the trouble. The suddenness with which the well died indicated that the water was coming from the top of the sand. It is probable that water from the shoe of the casing in O'Connell 2 migrated along the sand and found its way into O'Connell 3, which had been making only clean oil.

Additional Acreage

Standard Oil Company cored about 60 feet of Buckbee sand in Jordan 7, which is located in the west end of the field. This discovery proves additional acreage along the west side, but still leaves the maximum producing limit of the Buckbee zone well within that of the Meyer sand.

Associated Oil Company is approaching 6600 feet in Clark 2, a test in the northwest part of the field, but has encountered no signs of the Buckbee zone. The Buckbee shale was found just below 6000 feet, but the main producing sand has been very conspicuous because of its absence. Richfield Oil Company has also failed to find the Buckbee sand in Elliott 2, another

deep test in the northwest sector. The well is drilling at 6225 feet, or more than 150 feet below the point at which the Buckbee shale was found.

Wilshire Oil Company has killed Cecelia 1-B and is coring ahead in quest of deeper producing sands, according to a field report. Since the company has steadfastly refused to make public any information whatsoever concerning its activities, the report has not been confirmed. Reliable reports place the production of Buckbee 1-A, the discovery well, at 1700 barrels, a decline of about 1800 barrels.

Reversing their positions during the past two weeks, wells on the east side of the field are now showing about the same decline as those completed on the west side. Some of these wells and their declines follow: General Petroleum Corporation's Hill-Midway 2, 500 barrels; George F. Getty's No. 22, 800 barrels; Universal Consolidated Oil Company's Blanchard 8, 500 barrels, and Universal Consolidated Oil Company's O'Connell 3, 700 barrels (before going off production.) Such a weekly decline seems rather high, but where the initial was satisfactory, the drop was not unusual.

New Locations Decline

New locations have shown a sharp decrease during the past three weeks. The greater number of new wells have been located on the east side of the field.

The Intermediate zone is showing a much slower decline than the Buckbee zone, but this may be caused by the fact that fewer wells have been completed in the former, which is also thicker than the latter.

The percentage of water in the wells that have been cutting for some time has increased rapidly. Some of the wells showing high cuts, and the percentage of water follow: General Petroleum Corporation's Santa Fe 189-C, 16 per cent.; George F. Getty's O'Connell 19, 28 per cent.; Shell Company's Slusher 12, 20 per cent.; The Texas Company's Matern 2-7, 48 per cent., and Wilshire Oil Company's Buckbee 1-A, 28 per cent. Production of The Texas Company's Matern 2-7 has fallen to 1400 barrels. The cut of Wilshire Oil Company's Buckbee 1-A has not been confirmed.

New production during the week was more than 25,000 barrels, but the field increase was less than 5000 barrels. This small gain shows that many new wells will be necessary to show an increase from week to week. Since one good well died outright, the gain does not reflect the true condition of the field however.

Production from the deep zone has passed 90,000 barrels from 34 wells. There are 13 wells coring in, two cemented over and eight ready to test the Intermediate zone; while 13 wells are coring in, 11 cemented over and three ready to test the Buckbee zone. Drilling wells total 250, with about 70 wells due for completion in January.

Peak production still remains anybody's guess, with 250,000 barrels the highest figure entertained in conservative circles. The peak should be reached early in February.

Work Started on New Tests at Kettleman Hills

Coalinga, Calif.—Two new wells have been started in the Kettleman Hills field, in addition to several new locations and at least two new rigs. Standard Oil Company has started drilling in No. 81, Section 11-22-17, while Milham Exploration Company got away to a good start in Elliott 2, an offset to the discovery well. The former holds an enormous acreage in the district and will start three more wells within a few weeks. Milham Exploration Company, subsidiary of the Mexican Seaboard Oil Company, will also drill additional wells on Section 2-22-17. Operations are widely scattered over the district, due to the size of the structure and the lack of information concerning the trend of production. It has been agreed that not more than 20 wells will be drilled on each section, but even this rate will care for a large number of drilling wells. The cost of drilling each will run from $200,000 to $300,000, according to operators who have previously drilled in the area. The depth of production probably will run from 6500 to 7500 feet.

Midway

Taft, Calif.—Activity in the Midway district continues at a low ebb, with no immediate increase in drilling operations in prospect. Occasionally a new well is started, but another is shut down to offset the gain. This transition from a widely discussed drilling campaign to comparative quiet has been brought about by the great activity in both critical and newly discovered fields. The Republic Petroleum Company has suspended operations in No. 32, Section 8-32-23, at 4435 feet, after failure to find another sand below the formation tested around 3600 feet. The company is rigging another well on the same section, however. The Union Oil Company has reached 2650 feet in Western Petroleum 1, which offered some promise at 2100 feet but failed to make a commercial producer on a test. This well is more than three miles from the Republic Petroleum Company's discovery well in the deep sand.

Elwood

Santa Barbara, Calif.—Rio Grande Oil Company and Barnsdall Oil Company found the oil sand at 3310 feet in Doty 2, in the Elwood field, and have cemented the customary string of casing over the formation, preparatory to drilling out and testing. The oil zone was found slightly deeper in Doty 2 than in some of the other completions, but the difference in depths is regarded as negligible. The well was drilled in only a few weeks. Elwood Acres 1, the outpost well, has shown little promise since leaving the sand which is producing in the discovery well was passed at 4300 feet.

None of the several outpost wells have found the sand which is productive on top of the structure, although one or two have passed the depth at which the formation was expected. Bankline Oil Company, drilling directly north of the producing wells, has passed 4550 feet in No. 1, but failed to find the oil zone.

Piru

Ventura, Calif.—Petroleum Securities Company has abandoned Diablo 1, a wildcat test near Piru, at 6510 feet, writing off one of the most promising wildcat wells drilled during the past year. Between 4000 and 5000 feet, a promising oil sand was found, but the well fell just short of commercial production. The test is located on a large ranch and only a short distance from wells which have produced some oil from the shallow sands for many years.

Kern County

Bakersfield, Calif.—A larger percentage of wildcats are idle in Kern County than at any time during the past year. At the end of the year, there was not an important test scheduled in the entire county. All wells in the Union Avenue district, just outside this city have been shut down, with no promise of an early resumption of activities. Richfield Oil Company will again test its Semitropic wildcat, but if the well fails to make a good showing, it probably will be abandoned outright. W. W. Stabler has overcome the fishing job in Tejon 1, near Comanche Point, and is making new hole at 2950 feet. Two wells are drilling in the Edison district, but production seems farther away than it did a year ago. Three wells are drilling in the Buttonwillow district, but they are chiefly drilling for gas.

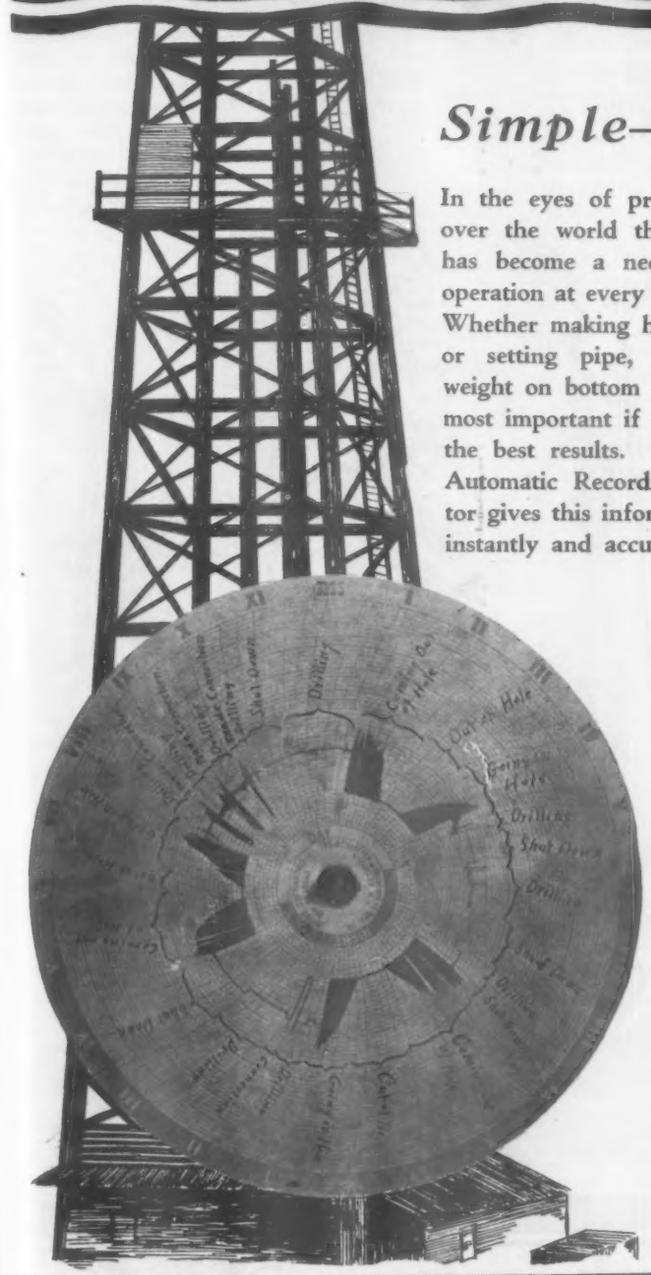
Ventura

Ventura, Calif.—The Associated Oil Company has completed Lloyd 36 as one of the best wells of the month in the Ventura field. The initial production was 2500 barrels of 29 gravity oil. Completed at 7800 feet, the well was one of the deepest yet finished in this field. Water has been causing some trouble in recent completions, but Lloyd 36 showed only a very small amount of free water.

Shell Company did not fare so well in the completion of Gosnell 28, which came in with an initial production of 600 barrels from 7150 feet. The oil showed a cut of 50 per cent. Gas production was less than a million cubic feet, or considerably less than the usual volume.

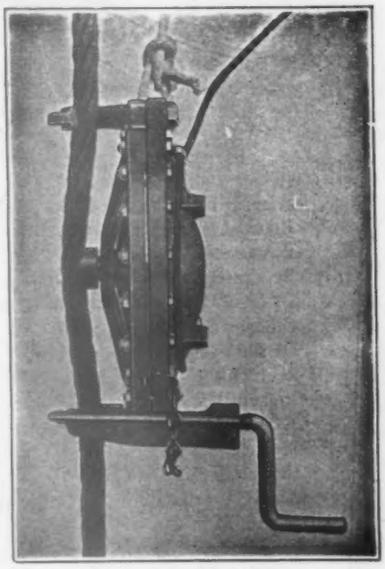
With about 40 drilling wells in the field, production probably will not show an appreciable decline for many months. The curtailment program still is in effect, at least theoretically, but several line wells are being operated at capacity.

Martin-Loomis AUTOMATIC Recording Weight Indicator



Simple—Accurate—*Foolproof*

In the eyes of practical oil men all over the world the weight indicator has become a necessity for efficient operation at every rotary drilling well. Whether making hole, coring, fishing, or setting pipe, knowledge of the weight on bottom and on the hook is most important if the driller is to get the best results. The Martin-Loomis Automatic Recording Weight Indicator gives this information at all times, instantly and accurately.



Right: Martin-Loomis Diaphragm Unit attached to cable deadline. Left: Typical chart showing details of operation during 24-hour day as recorded by Martin-Loomis indicator.

Dependable

The Martin-Loomis Weight Indicator is a sturdy, dependable friend of the driller. It enables him to make straighter hole in shorter drilling time, to get more service per bit, and to take better cores. Twist-offs due to crowding are practically eliminated and all fishing jobs greatly facilitated. The entire hook-up is simple, accurate, and foolproof. There are no moving parts to get out of order and the upkeep cost is practically nothing.

MARTIN-LOOMIS CORPORATION

2827 Cherry Avenue **Long Beach** **California, U. S. A.**

Foreign Distributors
OIL WELL SUPPLY COMPANY
PITTSBURGH, PA.

AND
THROUGH
ALL SUPPLY
STORES

Mid-Continent Distributors
REED ROLLER BIT COMPANY
HOUSTON, TEXAS

American Hammered Piston Rings

Individually cast, mechanically hammered to give lasting tension, particularly designed and adapted for Oil Field and other severe service.

Endorsed and used as Factory Equipment by

Ajax Iron Works - - - - Corry, Pa.
Bruce-Macbeth Eng. Co. - - Cleveland, Ohio.
Bovaird & Seyfang Mfg. Co. - Bradford, Pa.
Bradford Supply Co. - - Bradford, Pa.
C. & G. Cooper Co. - Mount Vernon, Ohio
Chicago Pneumatic Tool Co. - New York, N. Y.
De La Vergne Machine Co. - Philadelphia, Pa.
Franklin Valveless Eng. Co. - Franklin, Pa.
Ingersoll-Rand Co. - - New York, N. Y.
McIntosh & Seymour Corp. - Auburn, N. Y.
Muncie Oil Engine Co. - - Muncie, Ind.
National Supply Co. - - Toledo, Ohio
Pennsylvania Pump & Conpressor Co. Easton, Pa.
Power Mfg. Co. - - - Marion, Ohio
Jos. Reid Gas Eng. Co. - - - Oil City, Pa.
Sullivan Machinery Co. - - Michigan City, Ind.
Titusville Iron Works - - Titusville, Pa.
Wilson Snyder Mfg. Co. - - Pittsburgh, Pa.
Worthington Pump & Mach. Corp., New York, N. Y.

May be obtained from the above companies, or their selling agents, in standard sizes or oversizes.

Rings for any engine or compressor not listed above can be obtained direct from us.

The American Hammered Piston Ring Co. Baltimore, Md.

Say you saw it in The OIL WEEKLY.

Who Would Steal Nitro-Glycerine?

Disappearance of 1200 quarts as completely as if it had exploded leaves owners and the curious wondering where the explosion will be

By GRADY TRIPLETT

FOR intrepid pilfering, consider the nitroglycerine thief. Whatever he may lack in knowledge or fear, he makes up in boldness.

These remarks are justified by the taking of several thousand quarts of good well shooting fluid from magazines in Oklahoma and Kansas. The thievery reached such a state recently that torpedo concerns have been using newspaper space to offer rewards for the apprehension of the burglars.

With guilt established, the question arises as to whether punishment should be in a penitentiary or in an institution for the mentally deficient. This, however, is beside the present consideration, since the officials of torpedo companies are spending no little thought and effort at striving for a solution of some peculiar thievery.

One torpedo concern reported the loss of 1200 quarts of nitroglycerine from two magazines in Oklahoma and one in Kansas. Fort the past few days there has been a lull in this form of stealing. But this is not taken as indicating that there will be no further burglary of magazines.

The situation presents a problem. First, who wants nitroglycerine and why? Second, granted that someone does want it (as witness the taking of several thousand quarts) what is to be done to prevent it? There is a reward offered, so the whole matter is open to the deductions of detectives both professional and of the correspondence school variety. Some assumptions may be taken as proven without any expert sleuthing.

Not a Playmate

For instance, it seems safe to assume that the thieves did not take this nitroglycerine for household purposes. Even the man bold enough to seek the explosive on a dark night and in the fastness of some remote hillside, should not be classed as foolish enough to keep it around his abode.

For, it must be remembered, nitroglycerine has been known to explode for trivial reasons and frequently for no reason at all. Some of the classical destructions of nitroglycerine can be charged to little more than the beating of the upper set of eye lashes against the lower. Its response to shock, heat, light and weather are such that it is not considered a fit playmate for children or grownups.

Another theory, deserving prompt discard, is that the explosive was taken for use as the noise element in some coming celebration of the national election. The men, who as youths, once took two blacksmithing anvils and charged them with powder, which was touched off with a heated iron rod, now have sons more daring. But it is too much to expect even the daring youth of today to adopt nitroglycerine for any similar purpose. The amount of nitroglycerine that may stick under a fairly well manicured finger nail is considered sufficient to finish the job for the leaning tower of Pisa. It is assumed here that this tower (provided this is the one), has been trying to fall for several years without success.

Neither is it likely that this nitroglycerine was taken for industrial purposes. Glycerine, in its tame and lonely state, is an excellent bath for a vacuum pump and also finds excellent use as an anti-free solution for automobile radiators. But when glycerine is mixed with the other substances to make it nitroglycerine it has about as much use around a pump or an automobile as shaving soap has around a camp of hoboes.

So the reward seekers, professional and otherwise, can discard these possibilities as well as many others.

Must Be Quick

As for what is to be done about this theivery, that is another matter and a more serious one. Nitroglycerine is no inexpensive combination of chemicals. When it is taken, the effect is much like that of robbing an office safe of dollars and currency in substantial amounts.

In the past it has not been considered necessary to post a night watchman at each nitroglycerine magazine. The product has been able to take care of itself.

In case night watchmen are brought in (and this is no intimation that such will be done) a word of advice is not out of place to those trusted with such duties. The man should be alert. Getting to safety after a hundred quarts of nitroglycerine have decided to explode requires both mental and physical alertness. One of the laugh-producing gags of the old minstrel shows came from the comedian who seated himself on a powder can and on striking a match, remarked, "you've got to be quick around powder." That and more applies to nitroglycerine. Such a night watchman should be a graduate of Nitro university.

Since well shooting made its way into the oil industry back in Pennsylvania, there have been frequent unexplained explosions of magazines. Citizens for miles around hear a terrific blast. Later some torpedo company reports the loss of a magazine and its stored nitroglycerine. As a rule these explosions are never explained.

The recent stealing of nitroglycerine in Oklahoma and Kansas raises the question of burglary having been in process when these mysterious explosions took place. This, of course, is a matter of speculation. Such an explosion leaves scant evidence. When a man is unfortunate enough to be in an exploding nitroglycerine magazine, there is little left for burial except his memory.

Another on the Scotch

Of course an automobile should leave tangible evidence. But an ordinary truck could be so wrecked and removed to such a distance that it might be mistaken for scraps of bailing wire.

Another question pertinent to the case is the disposition the thieves intend to make of the product. A man armed with several quarts of nitroglycerine is even less welcome in an office than the vender of strained honey. Then nitroglycerine can not be as readily sold as fresh country eggs.

A normal conclusion is that the nitroglycerine is being stolen for shooting oil wells—the only decent and legitimate purpose yet found for the product. But there is a doubt among well shooters as to this, for well-shooting in Oklahoma and Kansas, as well as elsewhere in the land of too much oil, is not what it used to be. When production is too high and prices are too low, well shooting is something that oil producers are disposed to forget.

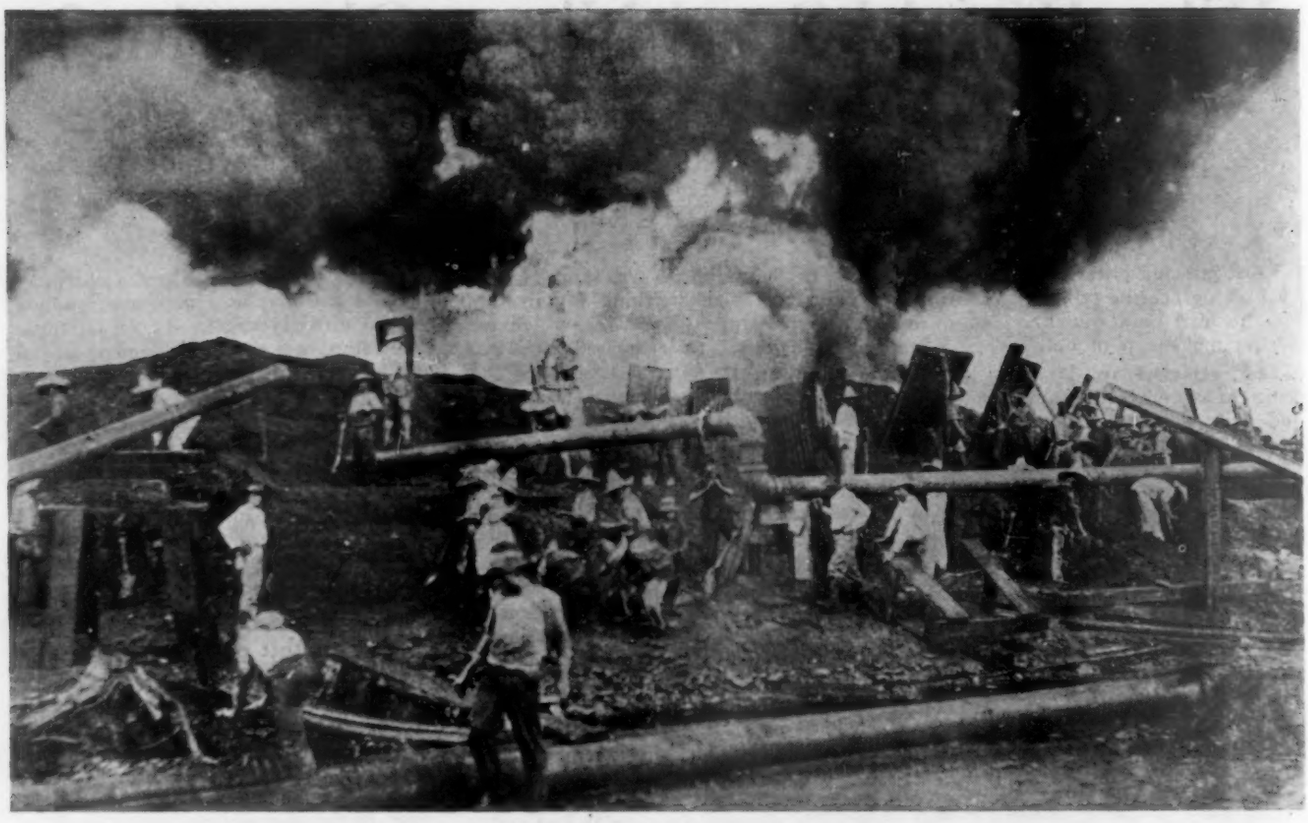
The deeper delving of the detective clan may fasten this thievery on the bank robbing element, which has not been unknown in the oil producing territory of late.

But that raises the question — why 1200 quarts?

A conservative estimate is that such a quantity of nitroglycerine would have served the James boys, the Youngers, the Daltons, Al Spencer, Henry Starr and the Kimes brothers and that there would still be left enough to rip open the sub-treasury, the bank of England as well as the treasures of Croesus.

Even the preserved wealth of Scotland could be loosened with 1200 quarts of nitroglycerine.

The taking of all this nitroglycerine is one of the problems of petroleum not yet placed before the Federal Oil Conservation Board and the Seminole Shutdown Committee.



Closing in on the Potrero Fire

Two Great Fires

By GEORGE BLARDONE

TWO of the greatest well fires in the history of the petroleum industry have occurred in Mexico. The first, and the most spectacular, defied all human efforts to curb it. The second, and the greatest in point of time, offered new problems for the technicians, successfully overcame the scientific efforts put forth, and was finally subdued by what might be termed mere brute strength. Aptly, this last was a case of "muddling through." It was an English owned well; and when the learned doctors of oil well fire technic had failed, a quiet, unassuming English mining engineer, a subordinate on the company's staff at the time, conquered the fire.

The first fire destroyed Mexican Eagle Oil Company's (then S. Pearson & Sons, Limited) San Diego 3, and ruined the promising San Diego field, the northernmost pool in what is now known as the south fields district of the Tampico-Tuxpam embayment. This fire burned from July 4, 1908, until mid-October of that year, say three and one-half months. The second fire occurred at the company's Potrero del Llano 4 well, lasting from August 13, 1914, to March 17, 1915, seven months. Both fires were costly in the extreme, potentially and actually. It has been stated on good authority that the cost of fighting the San Diego fire was no less than eighty thousand pounds sterling, and that, too, in a period when operating costs were as nothing as compared with similar costs in this time.

The San Diego field is bounded on the south by the Estero de Carvajal, and on the east by the Laguna de Tamiahua, which receives the waters of the estero in question. The field is quite flat, and its elevation is only a few feet above sea level. It was the scene of the first real field operations in the south fields district. Pennsylvania Oil Company, an American enterprise, owning the original lease, commenced the first well there (San Diego 1) in 1905. This hole was abandoned for some reason at 1660 feet in 1906. The second well was commenced with rotary tools, the first appearance of this system in the Tampico-Tuxpam embayment (rotary tools were probably used in the salt dome fields of the Isthmus of Tehunatepec prior to this time) of which there is any record. Drilling commenced on this No. 2 in 1907. Early in 1908, Pennsylvania Oil Company transferred its interests to S. Pearson & Sons, Limited, which finished the well at 2006 feet, rating it at 2,000 barrels. This pay completion was distinctly encouraging. Work commenced immediately on No. 3, which is, perhaps, better known to the laity as the "Dos Bocas" ("Two Months), a local name for the locality.

All went along as merrily as the proverbial marriage bell until the Fourth of July dawned. That day was destined to be fraught with more than mere memories of a certain historic event for the British personnel on the Pearson staff. It proved to be catastrophic for the San Diego field. During the day the tools tapped the pay stratum, and No. 3 "blew-in". It was the first great gusher well in Mexico. It has been frequently referred to as "the world's greatest oil well." It has since been the fashion to call later gushers by this fanciful title; but be this as it may, No. 3 was a wonderful well. Where it was located continues a phenomena perhaps unrivaled in the history of oil well locations. Of this more in due place.

The well, located 500 meters north of No. 2, which, recall, was finished at 2006 feet, was not expected with the tools dropping at 1825 feet. But

this was the depth of hole when the drilling dramatically ended. Such refinements as safety valves, cemented casing strings, anchored connections and high pressure master gates were not known in those days. They were developed, and their use made obligatory, at a much later date. When the well came in the derrick and engine house were blown to pieces. Literally, they were erased. The drilling crew ran for their lives. Fire followed so quickly that it might be said to have been synchronical. What ignited this blast of highly inflammable gas, and attendant oil, is a matter of conjecture. It has been argued that sparks from the tools was the primary cause; and other opinions have inclined to the theory that the gas caught fire from the nearby boilers. These theories aside, the fact remains that the place was instantly an inferno of flame. As the oil increased in volume the flame mounted towards the heavens, and at its greatest height, towered 1500 feet. This height was arrived at by David Fleming, an American engineer attached to the company's staff, who triangulated it with instruments. When not obscured by the heavy cloud of black smoke it generated, the glow from this column of flame was easily seen from the decks of vessels well out in the Gulf of Mexico. It was a vertiable "pillar of cloud by day" and a "pillar of flame by night" such as guided the Israelites from the land of the Egyptians, as set forth in Holy Writ.

What volume of oil No. 3 produced during the holocaust was never known. Estimators, professional and lay, were guessing from 75,000 to more than 200,000 barrels the day. The Pearson engineers finally placed the official figure at 129,000 barrels. As a matter of fact no one could do anything but guess it. The only direct evidence in the premises was that the volume of oil feeding the tremendous column of flame was by no means small; and that the pressure was enormous had been dramatically demonstrated when the pay stream was tapped by the drill.

Everything that could be suggested was tried in an effort to stamp out this fire and save the hole, if possible; or at least save the field, which was so promising. President Diaz, keenly alive to the fact that the fire was a menace to the natural resources of the state, ordered a battalion of sappers from the headquarters garrison in Mexico City to the scene. This battalion was transported from Tampico, where it detrained, to San Diego, on a small stern wheel steamboat that was owned and commanded by Paul J. Blackmon, of Corsicana, who, in later years, was destined to be vice-president and general manager of Magnolia Petroleum Company's Mexican interests.

But despite the best engineering talent that could be summoned, abundant labor, ample funds, and with the government affording moral and material aid, the fire defied all efforts to subdue it. One day in October there was a sudden, convulsive heave at the base of the tower of flame, a quick collapse —and the fire was out. Salt water, in unprecedented volume, drowned the fire that had raged for over three months as easily as one might snuff out a candle. Where an oil well had been was now a crater that was steadily enlarged as the thermal waters came raging to the surface. When this aqueous flow was considered at its maximum, engineers estimated its volume to be less than twenty-two millions of barrels the day. The water registered 220 degrees on the Fahrenheit scale. It was highly saline.

Dos Bocas—A scene of Desolation

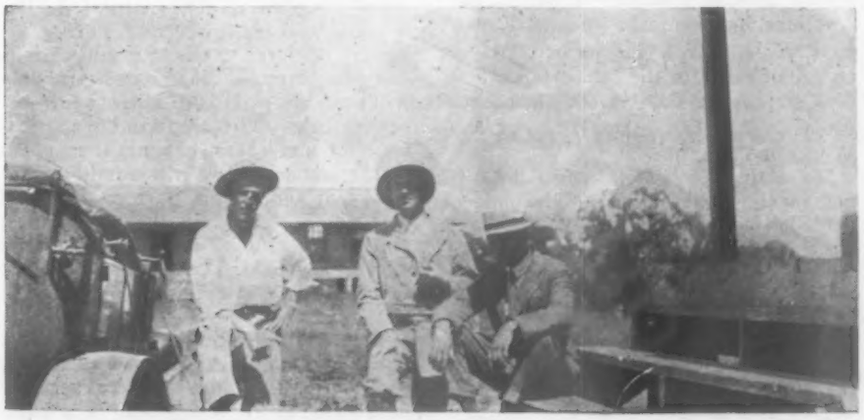
This flow of hot water continues to this day with little, if any, abatement. It has formed a lake of some 75 square acres, the crater being practically in the lake's center. The temperature of the water along the edges of this lake at this time registers 172 degrees Fahrenheit. The surplus waters flow into Laguna de Tamiahua; and it has been held by some authorities that the salinity of the waters in the latter has been increased by this discharge from the "Dos Bocas." The San Diego field was, per se, ruined.

Around the shores of this lake of steaming waters, strongly impregnated with odoriferous gasses, the trees are stunted and withered. The birds of the air and the denizens of the field avoid the place. It is a scene of desolation.

Portrero del Llano

The fire at Potrero del Llano 4, which started in August, 1914, was caused by lightning. This famous producer had always been a source of more or less trouble, as it had a tendency to leak outside of its casing. This was the trouble with a number of the earlier high pressure wells in Mexico, Huasteca's Juan Casiano 7, the other history making south fields gusher, being similarly afflicted. In fact, it was not until President Carranza's newly created petroleum department was functioning, with its field practice regulations, that cemented strings of properly seated casing was made compulsory.

Potrero del Llano 4 was another surprise well. It was finished unexpectedly at 1912 feet at 2 o'clock on the morning of December 26, 1910. It also "blew in," knocking down the derrick and smashing things generally; and it ran wild for three months before it was controlled. When revolutionary troubles became acute in 1913 the well head was covered with an enormous concrete slab. Whether the weight of this slab damaged its connections, or whatever happened, it degenerated into a useless nuisance; so the company did away with the concrete tomb arrangement in August, 1914, and erected a derrick to place new connections, which were in process of being fitted when



Island Oil and Transport Corporation officials in Mexico in 1919. *Left to right—the late Earl Smith, field superintendent; Frank C. Laurie, resident manager; L. G. Huntley, president.*

ightning ignited the gasses and oil leaking around the well head, and the seven-month fire marathon was on.

The company's first major endeavor to put out the fire was with steam. A hurry call was sent out for all available fire box field boilers. In a remarkably short space of time a battery of 50 or more of these boilers were assembled and under steam ready for the trial blasts, which, it was hoped, would smother the blaze. But in the interim fire conditions had changed. The seepages outside the casing had increased and the fire spread. By the time the boilers were assembled ready for the steam test there was an area as large as a city square in flames. The steam blasts were tried, and failed. The burning area was too large for the steam to cover it. It was then realized that this Potrero fire, by virtue of its area, presented an unprecedented problem that would have to be solved by new factors improvised to meet the particular phases it presented. Earth walls were run around the burning area to prevent the fire spreading. The men working on this wall were protected from the heat by improvised shields made of corrugated iron, insulated with earth layers. No one knew what would happen. It was like walking over a volcano, the upper crust of which was liable to give way into a sea of flame at any minute. The sudden collapse at "Dos Bocas" was recalled. That there was ample fuel in that under-the-earth reservoir was well known. The fire, leaping and roaring, showed no evidence of failing in a supply of combustibles, both gas and liquid; and Potrero 4 was popularly known as an 100,000 barrel well. The earth wall was confining the flames at this stage, but the fire was easily holding its own territory. An iron caisson, hastily fabricated in the company's shops at Tanhuijo, was sunk at a point directly outside the fire wall from the bottom of which it was proposed to tunnel to the well proper and so draw off the flow, which was the principal feeder for the fire. Hot seepage oil, and the gasses encountered, defeated this maneuver, although considerable seepage oil was attracted to the caisson from which it was pumped to storage. The removal of this caisson seepage oil, however, had no visible effect on the fire. Next an acid bath was tried. It, too, failed. It was apparently a stalemate; and, figuratively speaking, the attackers were perforce compelled to "dig in" for a siege.

The late T. H. Vaughan was manager of Mexican Eagle's field operations at that time. On his staff was a quiet, young English mining engineer, Frank C. Laurie. The job of putting the fire out, now that the experts had retired in disgust, was delegated to Laurie. He "muddled through" by adopting the expedient of gradually closing the encircling ring of dirt wall in over the burning seepages in the direction of the well head at the fire center. As his "shock troops" closed the dirt ring in an ever lessening circle, his second line—to continue the military simile—covered the advance by thoroughly earthing over the reclaimed territory so as to insure against back fires starting from escaping gasses or oozing oil that might suddenly break through. It was a long, tedious, expensive job, but it accomplished its purpose.

A feature of the fire was the fact that one eight-inch flow line remained intact from the well head to receiving tanks, and through this line some 25,000 barrels of oil the day was salvaged throughout the seven months.

And so, at the terminals at the mouth of the Tuxpam River, March 17, 1915, in the midst of the St. Patrick's Day celebration; and while the Penn-Mex Fuel Company's staff cheered the tanker that was departing with the first cargo of oil that company exported from Mexico, the Mexican Eagle's telephone brought the glad news from Potrero!

"Fire's out!"

Joins Bridgeport

R. S. McKEEVER

R. S. McKeever who has been made assistant general manager of the Bridgeport Machine Company, Wichita, Kansas, effective January 1. He formerly was in charge of sales for the International Supply Company and more recently had supervision over sales at the Oklahoma Iron Works in Tulsa.

Mr. McKeever is well known throughout supply circles in the Mid-Continent field, having been engaged in this work since July, 1909, when he joined the Oklahoma Iron Works organization in the shop. With the exception of three years when he was in the sales department of the Oil Well Supply Company in Tulsa he has been continuously associated with the International Supply-Oklahoma Iron Works until now.

He will make his headquarters at the general offices of the Bridgeport Machine Company in Wichita.

Leasing Over Wide Area North of Bakersfield

Bakersfield, Calif.—The many new fields opened up north of this city during the past two years are serving as an incentive for increased leasing over a wide area. Round Mountain, Fruitvale, the Lytle Fault, the Lindsay Structure and the small field discovered in December by Bruce Frame all hold some promise and at least two of these fields are expected to become of major importance. Activties have been confined chiefly to leasing, however, the demand for heavy crude being such that there is little likelihood of intense development during the next year. A vast area is being explored in a casual way and discoveries made during the depression in the heavy oil market are expected to result in a much larger production when the time for increased production is at hand.

Bay District Cities Want Natural Gas Supply

Los Angeles.—Development of the Kettleman Hills field in King and Fresno Counties is expected to change the complexion of the gas distributing system of California, particularly the area commonly known as the northern part of the State. Before the discovery well blew in, plans for a large gas line from the San Joaquin valley to San Francisco and other Bay cities had been completed. The heavy gas production in the first well changed the plans to include at least feeder lines to the district. The Buttonwillow area long has shown promise as a gas field but it has never demonstrated that it could be depended upon for a permanent supply. The advent of the Kettleman Hills field makes the construction of the gas line to San Francisco feasible and a neecssity. Dozens of smaller cities and towns are anxious to grant franchises for distributing natural gas.

Long Beach Declines

Los Angeles.—Long Beach managed to show only a small decline during the week, although only a few small wells were completed. The natural decline is considerably slower than during the period of large wells. Production is hovering around 185,000 and probably will stay above 175,000 barrels for several months. The deep sand in the Los Cerritos extension has not become a factor and probably will not be extensively drilled. This part of the field was not a success in the upper sand, and with a gradual decline in the main part of the field, Los Cerritos will not receive much attention.

Tulare, Calif.—Standard Oil Company has obtained leases on several thousand acres lying in several sections of Township 21, Range 15. The company has no immediate plans for drilling these leases, but acquired the acreage chiefly for protection.

MURRAY

MID CONTINENT DISTRIBUTORS

A Seminole Installation of SPHERO-VALVES

Leakless-Long Life-Positive

Complete Stock at Tulsa

Wilson-Snyder Slush Pumps
14 x 7 x 18

In order to service Wilson-Snyder Slush Pumps in the St. Louis and Maud districts, we have opened a warehouse at Maud with a complete stock of No. 18 Parts.

14 x 7 x 18" High Pressure Service

Automatic Oiling System

Low Operating Cost

Balanced Piston Valves

Distributors of

Wickwire Spencer Wire Lines
Fairbanks Valves
Dart Unions
Drilling Tools
Fishing Tools
Supplies
Pittsburgh Seamless Casing, Line Pipe, Drill Pipe.
Lapweld Casing and Line Pipe
U. S. Rock Bit Cones and Side Reamers
Eureka Gas Burners
Spang Jars

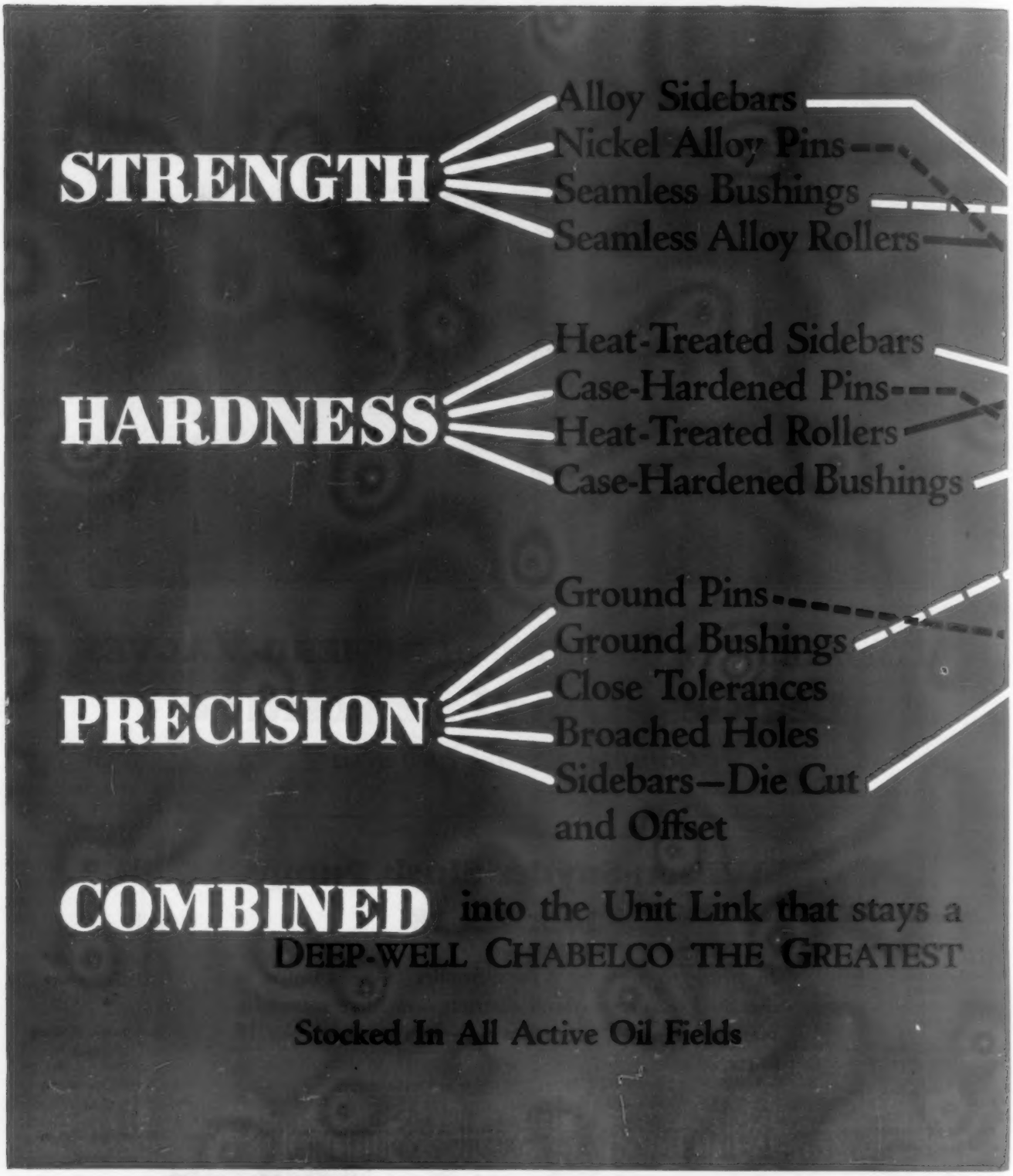
Murray Tool & Supply Company, Inc.

General Offices Cleveland, Oklahoma Tel. 39

Oklahoma Branches: Bowlegs Tel. 28 · Pawhuska Tel. 867 · Ponca City Tel. 2769 · Seminole Tel. 119 · Tulsa Tel. 4-0144 · Webb City Tel. 54 · Weleetka Tel. 121 · Yale Tel. 55 · Maud · *Texas:* Wink

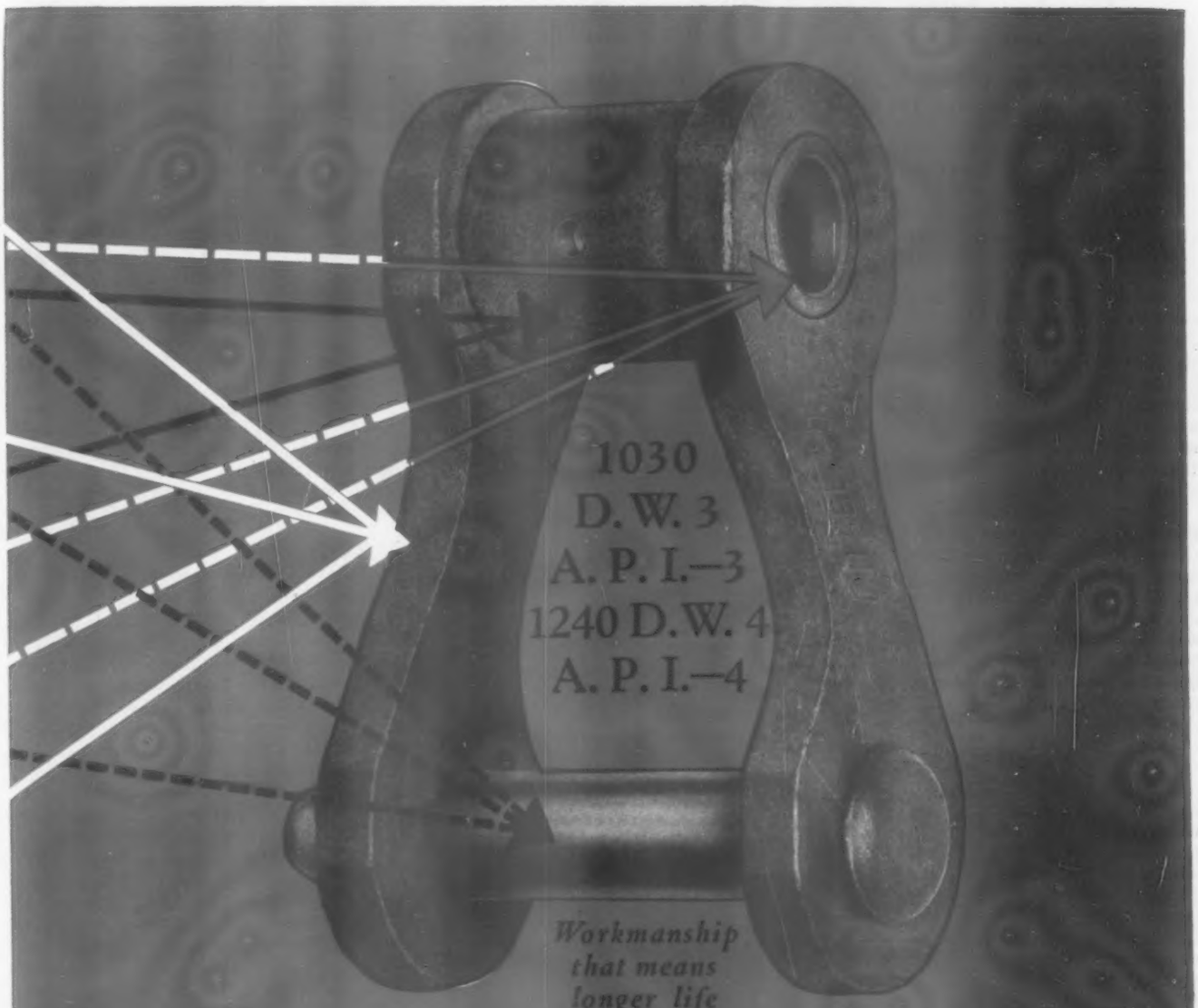
Say you saw it in The OIL WEEKLY

REX ROTARY



REX *Deep Well*

DRILLING CHAIN



Unit. Accurate force fits at every point make REX CHAIN THAT EVER HIT THE OIL FIELDS.

Made by CHAIN BELT COMPANY

739 Park Street Milwaukee, Wisconsin

Builders of Rotary Drilling Chain since wells were first drilled with Rotaries

CHABELCO

Say you saw it in The OIL WEEKLY

Mountain States Field Development Notes

Another Line to Serve Pondera Field

Great Fralls, Mont.—Another pipe line to serve the new Pondera field will be built immediately by the newly organized Pondera Pipe Line Company. The carrier will be eight miles in length, and will be of four-inch pipe with three-inch gathering lines in the field. The great Northern Railway will construct a spur track, and storage tanks sufficient to handle the crude will be built. Loading rack is to be half mile south of the one owned by the Thurber Pipe Line Company. Whether or not this line will cause the announcement of a posted field price for Pondera crude oil is a matter of speculation; since the shipment of oil began several months ago to refineries in Montana and Alberta there has been no posted field price. However, it is understood that the price averages about $1.75 at the well and $1.90 at the loading rack, allowing a pipe line charge of 15 cents.

A contract for the state royalty oil from this field recently was awarded to the Conrad Refining Company at a price 16½ cents per barrel above the posted field price for Kevin-Sunburst crude which was at that time $1.65 per barrel. This base was taken because there was no announced posted price in Pondera. Conrad Refining Company is erecting a topping plant south of the town.

Pondera

Great Falls, Mont.—Nine more wells were completed in the Pondera field last week, eight of them being average to good producers. One had some water along with a small amount of oil. This leaves 13 wells drilling, six rigging, and seven located. Four of the drilling wells will be early completions. The field now has more than 70 producing wells with a maximum production estimated between 3000 and 4000 barrels per day.

Century Petroleum Buys Cat Creek Production

Great Falls, Mont.—The "56" Petroleum Corporation has sold its Richard Ihde lease in the Cat Creek field to Century Petroleum Company for more than $250,000. The "56" is to retain a royalty in the lease from 40 acres from which the company has already taken three million dollars worth of oil.

The sale is to become effective on January 1, and provides for a test of the deeper sands of the Cat Creek which, it is believed in some quarters, have never been adequately tested.

Century Petroleum Company is controlled by the Book interests of Detroit, which controls the Lewiston Oil & Refining Company, and it is evident that the company plans to assure itself of a supply of high grade crude for this plant.

It is reported that the Century interests have taken an option on the Cat Creek properties of the Homestake Oil Company to expire on February 1.

The "56" will retain its holdings in Kevin-Sunburst and Bannatyne.

Company Organized to Build

Casper, Wyo.—The Uinta Pipe Line Company has been organized as a transportation organization for the purpose of laying the long gas pipe line from the Southwestern Wyoming gas fields to Salt Lake City, Ogden, and towns in Wyoming and Idaho. Pipe for the line has already been ordered from the A. O. Smith Corporation of Milwaukee. The line will be about 287 miles long and it is estimated that it will cost about eighteen million dollars to build. Actual construction will begin at Salt Lake City to work eastward early in January, and in the spring the work will start at Hiawatha dome to work westward.

There will be several companies formed from time to time to handle production, transportation, and distribution of the gas, but all of these companies will be subsidiary to and will be controlled by the Western Public Service Corporation, identified with the Ohio Oil Company. For the present the Ohio Oil Company will have charge of the production of gas, Prairie Oil & Gas Company will have charge of transportation, and Columbia Gas & Electric Company will manage the distribution. Three corps of engineers are in the field running detailed surveys for the pipe line and securing the right-of-way. Several routes are being considered; part of the line will be run through rough country in Southern Wyoming where long stretches of the ditch will of necessity be blasted out of solid rock.

Kevin-Sunburst Extension

Great Falls, Mont.—Most interesting activity in Northern Montana continues to be centered about the Hannah-Porter Oil Company's State 2, which, four miles southeast of the nearest production in the Kevin-Sunburst field, has created somewhat of a furore in local oil circles. There is no definite knowledge of the well's production possibilities, and there will be no test run made until proper storage is erected. Location is NW NW Section 36-34-1w.

Great Falls, Mont.—Ohio Oil Company will lay a 10-mile gas pipe line from its Dry Creek gas well, Southern Montana, to hook up with the Elk Basin-Billings pipe line for emergency use. This will safeguard against a recurrence of such conditions as kept Billings shivering during a recent cold snap when the line broke, and left the city without fuel for two or three days.

Wyoming Inspector Makes Price for Crude

Casper, Wyo.—The state oil and gas inspector has established a posted price of $1.25 for oil produced in the new Pedro field, half way between Newcastle and Osage. This new field is controlled by B. V. Hole and his associates; they now have six producing wells on state land and two or more on private properties. The old Alliance Oil & Refining Company refinery which was at Thermopolis, Wyoming, is being moved to the field and will be placed in operation there immediately upon its completion.

Average depth in this little field of the producing wells is around 400 feet, and the completed wells produce three to 10 barrels of 29.6 gravity crude. The total production of the field has never been measured due to the fact that the operators have never maintained sufficient storage to permit this. However, with the establishment of the refinery an accurate test may be made of the daily output.

California Gas Waste

Los Angeles.—The wastage of natural gas in California continues to be one of the most perplexing problems of the petroleum industry. A surplus still exists in the Long Beach and Ventura fields and Santa Fe Springs is already supplying more gas than is needed. While a decline in the surpluses in both Ventura and Long Beach is expected, Santa Fe Springs constitutes a vast problem. Fully two million people use gas for domestic purposes in the Los Angeles basin and the majority of the industrial plants consume enormous quantities of the fuel. Even with this wide distribution, there is more gas than is needed or wanted. The thought that the gas will some day be needed has prompted action from several organizations to conserve this very important natural resource. The State of California is taking a hand in a quiet way, in order that the operators may see the folly of such waste.

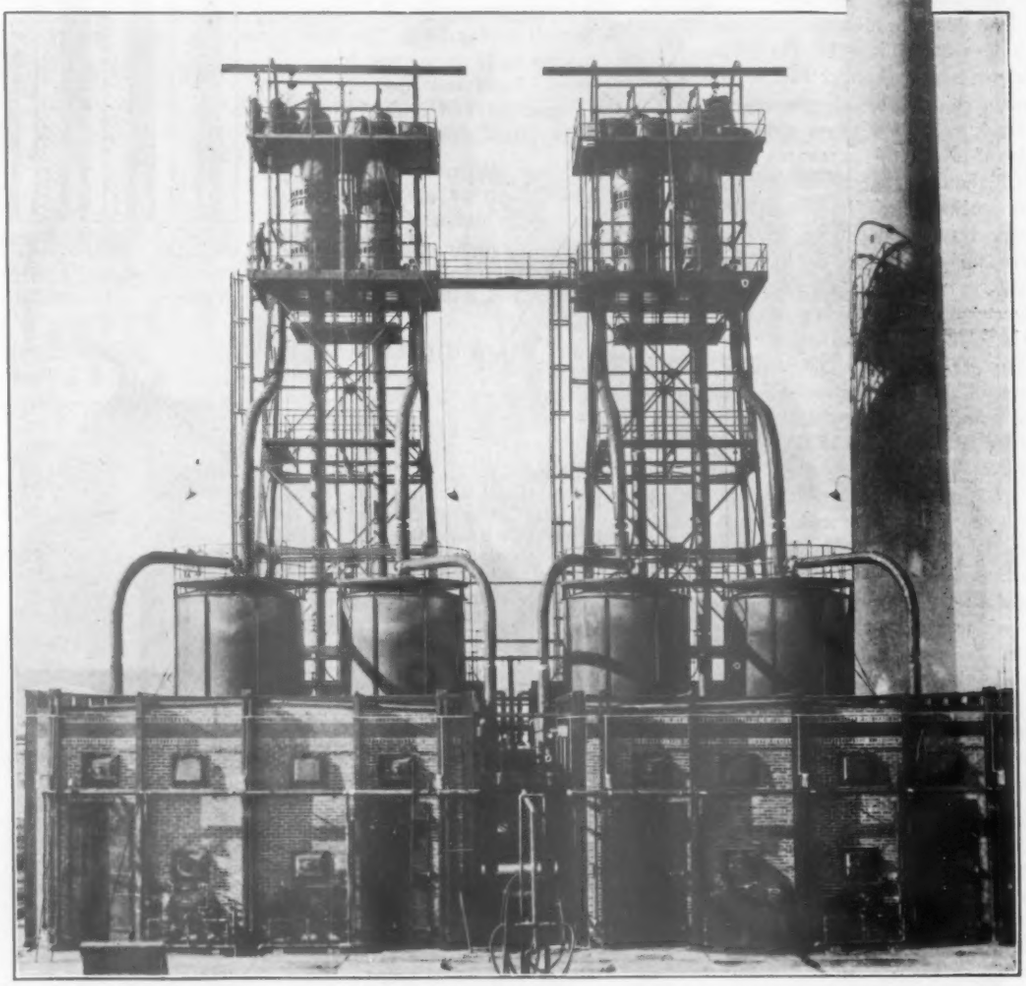
Los Angeles.—Three new locations in the Seal Beach field, two by Marland Oil Company and one by Standard Oil Company, indicate a steady development of the main field, where drilling operations have been carried on in a very sensible manner during the past two years. Marland Oil Company, Standard Oil Company and Associated Oil Company control this part of the field and have drilled only a limited number of wells over an area several times as large as the townlot district. Marland Oil Company is approaching 7200 feet in Selover 12, an interesting test in the Alamitos Heights or townlot sector. This well has produced from three upper sands and is being used as an extremely deep test.

"Why Use Pittsburgh Seamless Steel Tubing For Hard Service?"

This is for the fact-finding oil man who accepts or rejects pipe and tubing on the strength of his own good judgment:

PITTSBURGH Seamless steel tubes are high-pressure tested. Their uniform, elastic, forge-finish steel is flawless. They have no seams—no potential trouble-spots—no pinholes. They expand as a unit—contract as a unit. Their walls are thick and smooth—unresistant to liquid flow—which minimizes the scale nuisance. They are ***strong.***

In boilers they stand fire, steam pressure and hot water with equal calm. In condensers they absorb inside heat and outside cold, unaffected by either. In still service they withstand repeated fractionation processes with the shirt-sleeved dignity of a proud service record to uphold.



PITTSBURGH SEAMLESS

Still Tubes *Boiler Tubes* *Condenser Tubes*

Steam Lines Tank Car Piping Coils Heating Systems Casing

Oil and Gas Pipe Lines Tubing Drill Pipe Line Pipe

and all High Pressure Piping

Pittsburgh Steel Products Co.

DIVISION OF

Pittsburgh Steel Co.

PITTSBURGH · NEW YORK · DETROIT · CHICAGO · HOUSTON · TULSA

Say you saw it in The OIL WEEKLY

Government Gives Data On Fuel Oil Consumption

Washington, D. C.—According to a report compiled by E. B. Swanson, economic analyst of the United States Bureau of Mines, deliveries of gas and fuel oil during 1927, as reported to the U. S. Bureau of Mines by refining and marketing companies, reached a total of 381,151,000 barrels, as compared with 372,381,000 barrels in 1926. This increase of 8,770,000 barrels resulted from increased shipments to foreign countries. Shipments abroad increased from 34,516,390 barrels in 1926 to 42,963,180 barrels in 1927, or 24.5 per cent., while shipments to Alaska, Hawaii and Porto Rico advanced from 4.104,505 barrels in 1926 to 4,427,682 barrels in 1927, an increase of 7.9 per cent.

The domestic demand for gas and fuel oil was stimulated by the increased requirements for bunker fuel by oil-burning steamers and the increasing installations of domestic and commercial oil heating plants. Railroad purchases were less in 1927 than in the preceding year, as fuel oil stocks which had increased in 1926 were drawn upon during 1927. The actual consumption of fuel oil by railroads was slightly larger in 1927 than in 1926. Deliveries of gas and fuel oil to gas and electric power plants showed a decrease from 33,652,000 barrels in 1926 to 29,775,000 barrels in 1927. The consumption of fuel oil by refineries and producers declined from 48,701,000 barrels in 1926 to 43,453,000 barrels in 1927. Other major decreases include the lessened requirements for general manufacturing and various smelters and steel mills. While there was a slight decline in domestic deliveries of fuel oil in 1927 as compared with the preceding year, actual sales of fuel oil increased. This is accounted for by the fact that while the quantity of fuel oil delivered within the United States showed a slight decline, a large decline was registered by the oil industry itself. Thus, in reality, the domestic deliveries of fuel oil showed a gain.

The Pacific Coast states continued to lead in the regional consumption of fuel oil, followed by the South Central and Middle Atlantic states. A greater utilization of natural gas in Texas and Louisiana was mainly responsible for the decreased deliveries of fuel oil in the South Central states, while the decrease in the South Atlantic states was centered largely in Florida and was caused by a decrease in railroad fuel oil consumption. The following table compares the fuel oil deliveries in the various marketing areas during 1926 and 1927.

The demand for gas and fuel oil for commercial and domestic heating called for the delivery of 21,520,724 barrels, as compared with 16,779,582 barrels in 1926. Heating of office buildings, apartments, schools, hotels, hospitals and other buildings required 15,-143,245 barrels in 1927, as compared with 13,874,181 barrels in 1926; 6,377,479 barrels were delivered to homes for domestic heating in 1927, as compared with 2,905,401 barrels in 1926. These figures do not include furnace oil and distillates used for domestic heating. It is estimated that such deliveries of lighter oils approximated 6,-000,000 barrels, which would result in total deliveries of oils for heating of 27,780,000 barrels during 1927. The following table shows the deliveries of gas and fuel oil for commercial and domestic heating during 1926 and 1927:

Some idea of the national distribution of gas and fuel oil can be obtained from the following table which shows the various uses of fuel oil for the years 1926 and 1927:

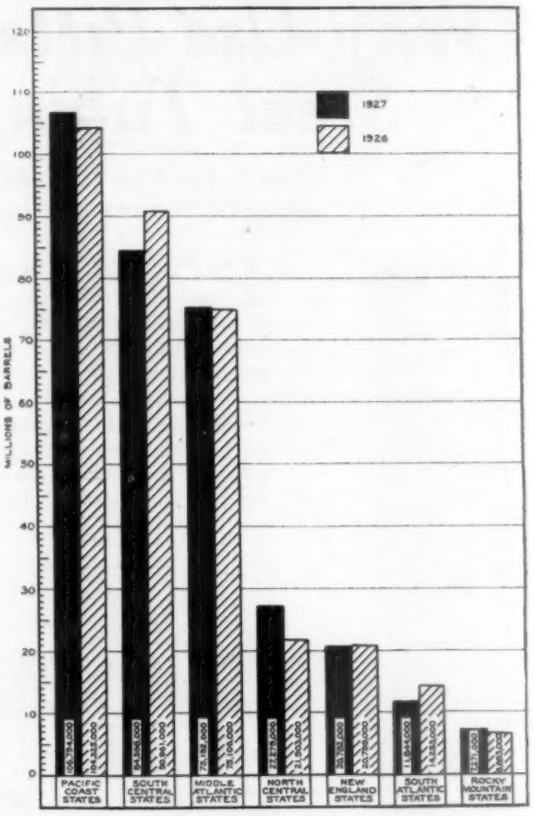


Plate 1—Geographical Distribution of Domestic Deliveries—Gas Oil and Fuel Oil, 1926-1927

REGIONAL DISTRIBUTION OF DELIVERIES, 1926-1927
(In barrels of 42 U. S. gallons

Region	1926 Barrels	1926 Per Cent	1927 Barrels	1927 Per Cent
Pacific	104,325,132	31.23	106,794,235	32.00
South Central States	90,960,970	27.23	84,598,155	25.34
Middle Atlantic States	75,105,567	22.48	75,191,444	22.53
North Central States	21,903,566	6.56	27,278,949	8.17
New England States	20,799,278	6.23	20,782,256	6.23
Rocky Mountain States	6,682,745	2.00	7,271,244	2.18
South Atlantic States	14,252,614	4.27	11,843,731	3.55
Totals	334,029,872	100.00	333,760,014	100.00

NATIONAL DISTRIBUTION OF GAS OIL AND FUEL OIL, 1926-1927
(In barrels of 42 gallons each)

Uses	1926	1927
Railroads	72,217,652	70,094,416
Bunker oil, including tankers	79,287,605	88,215,028
Gas and electric power plants	33,651,513	29,774,772
Smelters and mines	8,951,817	6,831,275
Iron and steel products	16,102,457	17,196,778
Chemical and allied industries*	.....	2,189,949
Automotive industries	1,603,393	1,686,605
Textiles and their products*	.....	4,620,626
Paper and wood pulp*	.....	3,130,603
Logging and lumbering	3,183,597	2,370,449
Cement and lime plants	5,586,144	5,051,051
Ceramic industries	3,216,850	3,270,036
Food industries	7,674,766	7,143,203
Other manuufacturing'	23,017,235	11,352,558
Commercial heating	13,874,181	15,143,245
Domestic heating	2,905,401	6,377,479
U. S. Navy, transports, etc	6,541,638	6,505,869
Used as fuel by oil companies	48,701,023	43,452,584
Miscellaneous uses	7,514,599	9,353,488
Totals	334,029,872	333,760,014

*Deliveries to chemical and allied industries, textiles and their products, and paper and wood pulp were included under "Other manufacturing" in the 1926 survey. Sugar refineries are included with "Food industries" in the 1927 survey.

(Continued on page 66)

Feel the Spring

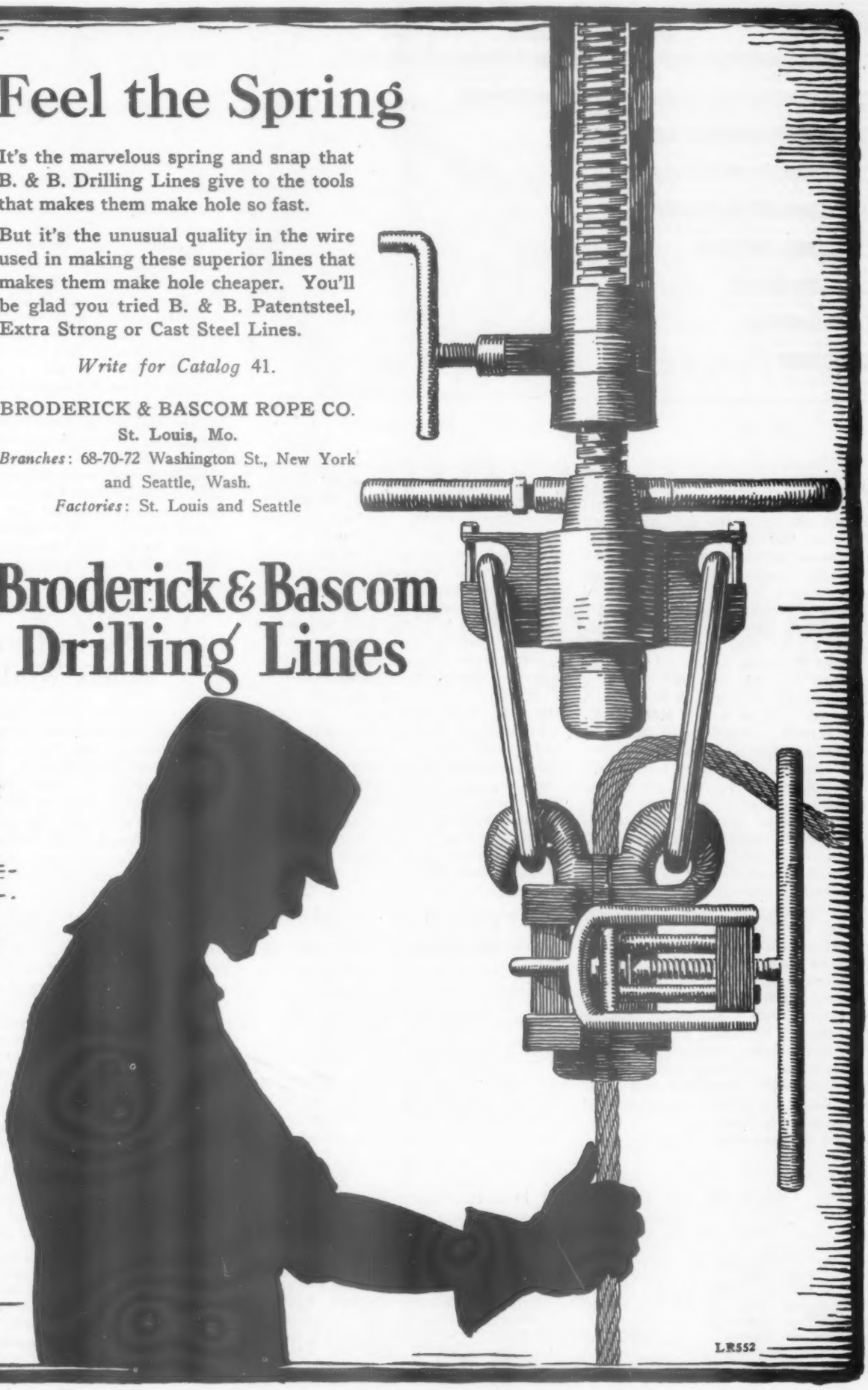
It's the marvelous spring and snap that B. & B. Drilling Lines give to the tools that makes them make hole so fast.

But it's the unusual quality in the wire used in making these superior lines that makes them make hole cheaper. You'll be glad you tried B. & B. Patentsteel, Extra Strong or Cast Steel Lines.

Write for Catalog 41.

BRODERICK & BASCOM ROPE CO.
St. Louis, Mo.
Branches: 68-70-72 Washington St., New York and Seattle, Wash.
Factories: St. Louis and Seattle

Broderick & Bascom Drilling Lines



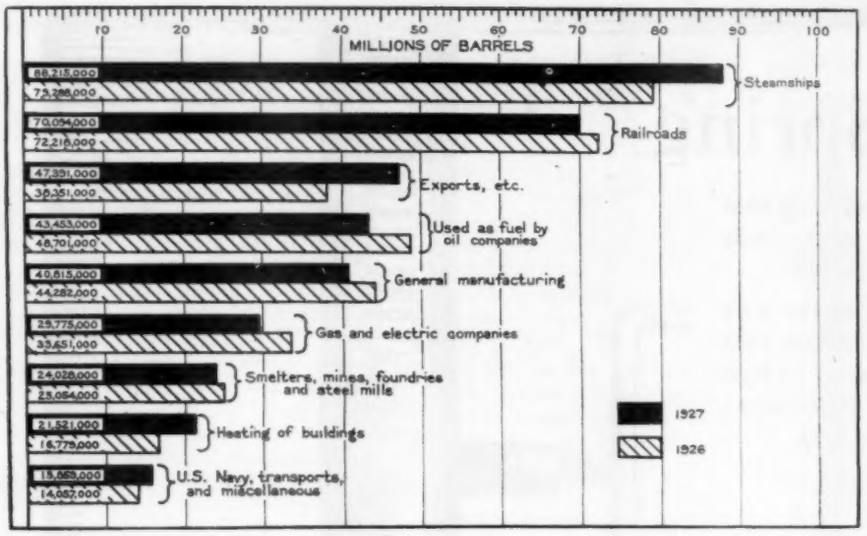


Plate 2—Gas Oil and Fuel Oil Deliveries, by Uses, 1926-1927

(Continued from page 64)

Other tables included in this report by Mr. Swanson show the distribution of gas and fuel oil by states and a detailed analysis of fuel oil utilization for various purposes by individual states. This report also included two interesting graphic charts which are reproduced herewith. Plate 1 shows the geographic distribution of domestic deliveries of gas and fuel oil for 1926 and 1927. Plate 2 shows the deliveries of gas oil and fuel oil by uses for 1926 and 1927.

California led all states in the demand for gas and fuel oil with a total of 89,844,872 barrels, followed by Texas with 44,500,450 barrels, New York with 34,324,041 barrels, and New Jersey with 19,676,609 barrels. The chief use of fuel oil in the various states was given as follows: California, railroads and steamships; Oregon, railroads; Washington, railroads, steamships and logging; Arizona, smelters and mines; Nevada, railroads; Idaho, railroads; Montana, railroads; Wyoming, railroads and U. S. navy and army transports; Utah, U. S. navy and army transports; Colorado, steel mills; New Mexico, railroads; North Dakota, commercial heating and miscellaneous manufacturing; South Dakota, electric power plants; Minnesota, electric power plants; Nebraska, electric power plants; Iowa, electric power plants; Missouri, railroads; railroads and oil companies; Wisconsin, steel mills and foundries; Illinois, steel mills, foundries and oil companies; Indiana, steel mills, foundries and oil companies; Michigan, automotive industries and electric power plants; Ohio, steel mills and foundries; Kentucky, oil companies; Tennessee, steamships; Texas, railroads and oil companies; Oklahoma, railroads and oil companies; Arkansas, railroads; Louisiana, railroads, steamships and oil companies; Mississippi, miscellaneous manufacturing; Alabama, steamship; Maine, paper and wood pulp; New Hampshire, electric power plants; Vermont, electric power plants; Massachusetts, textile industries; Rhode Island, textile industries; Connecticut, miscellaneous manufacturing; New York, steamships; New Jersey, oil companies; Pennsylvania, shipbuilding and foundries; Delaware, chemicals; Maryland, steamships; District of Columbia, electric power plants; Virginia, steamships; West Virginia, oil companies; North Carolina, electric power plants; South Carolina, steamships and oil companies; Georgia, food industries; Florida, electric power plants.

Egyptian Petroleum Consumption Increasing

Washington, D. C.—According to a report contained in Commerce Reports, issued by the Department of Foreign and Domestic Commerce, there has been a marked increase in the consumption of petroleum products in Egypt during the past few years. The most striking gains since 1923 are recorded for gasoline, Diesel oil, lubricating oils and asphalt. The use of fuel oil, however, has shown a marked decline. A summary of Egyptian consumption of petroleum products follows:

Product	1923 Long tons	1924 Long tons	1925 Long tons	1926 Long tons	1927 Long tons
Gasoline	12,900	17,400	25,800	32,200	38,200
Kerosene and gas oil	169,270	185,300	220,060	239,300	245,980
Fuel oil	146,820	142,030	102,050	110,272	73,480
Diesel oil	26,670	35,820	45,200	58,420	64,320
Lubricating oils	9,350	11,260	15,670	17,640	17,820
A'sphalt	3,370	8,930	7,940	8,960	13,840

Seven companies in Egypt—2 British, 2 local, 1 American, 1 French and 1 Belgian—import and sell petroleum products. They handle all the principal items and the Shell Company of Egypt sells asphalt. The demand for asphalt has grown considerably due to great activity in road building in that country. All asphalt from the distillation of petroleum is made locally, but there is also a considerable quantity of Trinidad asphalt imported. In addition to the products of local manufacture, there is an importation of gasoline, almost entirely from Rumania; kerosene from Rumania and Russia; fuel and Diesel oil from Persia, and also a quantity from the Netherland East Indies and Rumania; and lubricating oils from the United States, United Kingdom, Rumania, British Borneo and Germany. Egyptian crude yields about twenty per cent. of gasoline and kerosene, the remainder being fuel oil or asphalt.

Report Shows Growth In Safety Work

Tulsa.—Success of the Mid-Continent Oil & Gas Association in putting its safety program before men in the field during the past year is evidenced by an increase in the association's poster service from 20,800 in 1927 to 53,000 in 1928.

A bulletin started by the association in April, 1928, issued in mimeograph form, increased from an initial circulation of 275 to 1410 before the close of the year, and offers prospects of increasing shortly to double that figure. It has been changed from mimeograph to printed form.

There were 58,185 in attendance at the regular schedules of the association safety pictures in 1928 as compared with 26,027 in 1927, the records of Don J. Wallace, safety director of the association, show. In addition, these pictures have been seen by approximately 170,000 persons at the Louisiana State Fair, Shreveport, the International Petroleum Exposition, Tulsa, and through other industries in the Mid-Continent territory. Due to the establishing during 1928 of its own picture laboratory the safety section of the association is now prepared to turn out better work at less cost and with a decided saving in time.

Safety Director Wallace's report shows 12,150 men attended foremen's meetings and general safety meetings during 1028 as compared with 5948 men in 1927. This great increase in attendance came in the face of the schedules necessarily being shortened because of the extra burden of having to change during the year to the association's own laboratory, which involved considerable effort and time.

GAS OIL AND FUEL OIL DELIVERIES FOR HEATING OF BUILDINGS
(Barrels of 42 Gallons each)

District	Commercial Heating 1926	Commercial Heating 1927	Domestic Heating 1926	Domestic Heating 1927
Pacific Coast States	3,919,275	4,326,539	40,163	83,635
Rocky Mountain States	14,319	44,413	12,791	25,509
North Central States	1,348,270	2,063,976	1,168,976	2,941,748
South Central States	1,929,682	1,177,859	357,592	1,020,817
New England States	2,838,387	2,932,259	312,138	669,567
Middle Atlantic States	3,711,930	4,501,257	1,,011,083	1,599,643
South Atlantic States	112,318	96,942	3,096	36,560
Totals	13,874,181	15,143,245	2,905,401	6,377,479

For Strength and Uniformity Use

Announcing

the opening of a branch office of the

WICKWIRE SPENCER SALES CORP.

1304 THE PHILTOWER, TULSA

with the following personnel

MR. J. J. LOVELL (District Sales Manager) Tulsa Office
Business Telephone 4-0146, - *Residence Telephone* 3-8612

MR. O. C. ELLIOTT, Tulsa Office
Business Telephone 4-0146 - *Residence Telephone* 3-0036

MR. GENE SIDWELL, 1232 East Main St.,
Shawnee, Oklahoma - *Telephone* 1824

MR. R. J. JONES, Jr., Grace Hotel
Abilene, Texas

MR. DEAN ROLLANS, Tulsa Office
Business Telephone 4-0146 - *Residence Telephone* 2-3941

MR. L. R. AUSTIN, 602 N. Belmont St.,
Wichita, Kansas - *Telephone - Market* 7657

MR. ERNEST MEGENITY, 518 West Kansas St.,
Midland, Texas : *Telephone 138*

* * * * * *

With the establishment of this office we can assure our friends in the Mid-Continent oil fields of immediate service on **WICKWIRE SPENCER** *oil field Ropes.*

THE WICKWIRE SPENCER SALES CORPORATION *will also distribute B. F. GOODRICH Mechanical Rubber Goods and PHILADELPHIA Cordage, Bullropes and Cat Head Lines . . . Complete stocks are maintained in all principal locations.*

* * * * * *

Other Distributors of **WICKWIRE SPENCER WIRE ROPE**

MURRAY TOOL & SUPPLY CO. Tulsa, Okla. — A. F. KECK CO. Butler, Pa. — T. T. WORD SUPPLY CO. Houston, Texas

WICKWIRE SPENCER SALES CORP. Subsidiary of WICKWIRE SPENCER STEEL CO.
NEW YORK · BUFFALO · CHICAGO · TULSA · SAN FRANCISCO · LOS ANGELES · SEATTLE · PORTLAND

WICKWIRE SPENCER UNIFORM WIRE ROPE

Tests Better Than A. P. I. Specifications

Say you saw it in The OIL WEEKLY

CRUDE OIL PRICE QUOTATIONS

CURRENT POSTINGS

EASTERN STATES

	Jan. 1 1929
Penna Grade Oil in New York Transit Lines (New York)	$3.85
Brandford District Oil in National Transit Lines (Pennsylvania)	3.85
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.75
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	3.75
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.65
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.60
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (July 13)	1.45
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines (August 8)	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s Lines (Aug. 8)	1.90
Somerset Oil in Cumberland Pipe Line lines (Kentucky) (Sept. 14, 1928)	1.75
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (August 1)	.95
Keister (Pennsylvania)	1.20

CENTRAL STATES

Illinois	1.55
Indiana	1.37
Lima	1.60
Plymouth	1.28
Princeton	1.55
Waterloo	1.35
Wooster	1.77

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren.

All grades	1.75

MID-CONTINENT

Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company.*

25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.81
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

*The Texas Company posts a price of 60 cents on 24 to 24.9 gravity, and Gulf's posting begins at 28 to 28.9.

MID-CONTINENT

Magnolia Petroleum Company

Below 25 gravity	.60
25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 29.9 gravity	.75
30 to 30.9 gravity	.90
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.16

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude

(Humble Oil and Refining Company)*

25 to 25.9 gravity	.67
26 to 26.9 gravity	.74
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 and above	1.76

SOUTH TEXAS

Mirando	1.00

SOMERSET

Grayburg

	Jan. 1 1929
Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9 Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

MARKHAM

The Texas Company

All grades	1.00

LULING

All grades	1.00

PANHANDLE GRAY COUNTY

(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company and Sinclair Pipe Line Company).

Below 29 gravity	.68
29 to 29.9 gravity	.75
30 to 30.9 gravity	.82
31 to 31.9 gravity	.89
32 to 32.9 gravity	.96
33 to 33.9 gravity	1.01
34 to 34.9 gravity	1.06
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.16
37 to 37.9 gravity	1.21
38 to 38.9 gravity	1.26
39 to 39.9 gravity	1.31
40 to 40.9 gravity	1.36

CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity	Signal Hill	Alamitos Hts Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14.9	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .50	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.50	.75	.75	.75	.75	.75
16-16.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.50	.75	.75	.75	.75	.75
17-17.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.50	.75	.75	.75	.75	.75
18-18.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.50	.75	.75	.75	.75	.75
19-19.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.50	.75	.75	.75	.75	.75
20-20.9	.85	.85	.85	.85	.85	..	.85	.85	.85	.86	.85	..	..	.77	.77	.77	.77	.77
21-21.9	.89	.89	.89	.89	.89	..	.89	.89	.88	.89	.88	.89	..	.79	.79	.79	.79	.79
22-22.9	.93	.93	.93	.93	.93	..	.93	.93	.91	.92	.91	.92	..	.82	.82	.82	.82	.82
23-23.9	.97	.97	.97	.97	.97	..	.97	.97	..	.95	.94	.95	..	.86	.86	.86	.85	.85
24-24.9	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25.9	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26.9	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27.9	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29.9	1.21	1.21	1.21	1.21	1.21	1.21	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30.9	1.25	1.25	1.25	..	1.25	1.25	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31.9	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32.9	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
33-33.9	..	..	..	..	..	1.41	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34.9	..	..	..	..	..	1.47	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35.9	..	..	..	..	..	1.53	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36.9	..	..	..	..	..	1.59	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37.9	..	..	..	..	..	1.65	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38.9	..	..	..	..	..	1.71	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39.9	..	..	..	..	..	1.77	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40.9	..	..	..	..	..	1.83	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	..	1.89	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	..	1.95	..	..	..	..	..	..	..	..	..	..	..	..

Parkersburg

HAS SERVED THE OIL FIELDS OF THE WORLD FOR THIRTY-ONE YEARS

Aluminum Paint *for* Steel

PAINT is primarily used for protection—to protect the surface against the elements. To what extent, and how long this protection is assured, depends upon the quality of the paint.

After an exhaustive research Parkersburg standardized on Aluminum Paint. In actual tests, this paint proved to be a better oil field paint, and to give better protection than any other paint. It provides a flake coating of Aluminum Metal together with a coating of paint.

The outstanding advantages of Aluminum Paint are—its ability to minimize evaporation by reflecting the sun's heat, instead of absorbing the heat rays, and the superior protection it offers against corrosion of metal surfaces.

Parkersburg Aluminum Painted All-Steel Derricks, Tanks and other Steel Equipment, are protected against the elements by this coat of ***Metallic Aluminum,*** a protection that adds years to the life of the equipment, lowers derrick depreciation, reduces oil evaporation and checks deterioration.

When you buy Parkersburg Aluminum Painted Steel Equipment, you buy products that are manufactured on a quality basis, and protected by the latest coating process developed for combating rust and corrosion—Aluminum Paint.

Aluminum paint is opaque—and has a high reflectivity for light. Because of this the temperature of the paint, and of the material underneath, remains substantially lower than would be the case with other paints.

Parkersburg Products

Steel Derricks & Steel Crown Blocks ■	Rig Irons (A.P.I. Standard) ■
Chain Driven Sand Reels & Bailing Reels ■	Portable Drilling Machines (Wood & All-Steel) ■
Steel Wheels ■	Bolted Steel Tanks ■
All-Steel Standard Rigs ■	Miscellaneous Drilling Equipment ■

Check the equipment in which you are interested, tear out and return this page, with your name and address, to us, and we will send you complete information on the items checked.

The
PARKERSBURG RIG & REEL COMPANY
Executive Offices & Main Plant, Parkersburg, W. Va., U. S. A.

PARKERSBURG EQUIPMENT THE STANDARD FOR COMPARISON THE WORLD OVER

Say you saw it in The OIL WEEKLY

	Jan. 1 1929
41 to 41.9 gravity	1.41
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.51
44 and above	1.56

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.65
30 to 30.9 gravity	.72
31 to 31.9 gravity	.79
32 to 32.9 gravity	.86
33 to 33.9 gravity	.91
34 to 34.9 gravity	.96
35 to 35.9 gravity	1.01
36 to 36.9 gravity	1.06
37 to 37.9 gravity	1.11
38 to 38.9 gravity	1.16
39 to 39.9 gravity	1.21
40 to 40.9 gravity	1.26
41 to 41.9 gravity	1.31
42 to 42.9 gravity	1.36
43 to 43.9 gravity	1.41
44 and above	1.46

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.69
32 to 32.9 gravity	.76
33 to 33.9 gravity	.81
34 to 34.9 gravity	.86
35 to 35.9 gravity	.91
36 to 36.9 gravity	.96
37 to 37.9 gravity	1.01
38 to 38.9 gravity	1.06
39 to 39.9 gravity	1.11
40 to 40.9 gravity	1.16
41 to 41.9 gravity	1.21
42 to 42.9 gravity	1.26
43 to 43.9 gravity	1.31
44 and above	1.36

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Pecos and Winkler Counties, all grades	.65

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties and that part of Glasscock not included in the Chalk field. The Marland Company posts only in Crane, Upton and Crockett Counties; Southern posts only in Crane, Upton and Winkler Counties.

(Magnolia Petroleum Company)

Mitchell County	$ .80
Howard-Glasscock County (shallow)	.80
Howard-Glasscock County (deep)	.65

Col-Tex Refining Company

Howard and Mitchell Counties	$ .80

WYOMING-MONTANA
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.48
Grass Creek	1.48
Rock Creek	1.33
Lost Soldier	.95
Lance Creek	1.48
Mule Creek	1.10
Notches	.65
Big Muddy	1.33
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30

MONTANA

Sunburst	$1.65
Cat Creek	1.33
Lake Basin	2.20

	Jan. 1 1929
NEW MEXICO	
Artesia	1.08
Hogback	1.38
CANADA	
Oil Springs	2.07
Petrolia	2.00
NORTH LOUISIANA (The Texas Company)	
24 to 24.9 gravity	.76
25 to 25.9 gravity	.81
26 to 26.9 gravity	.86
27 to 27.9 gravity	.91
28 to 28.9 gravity	.96
29 to 29.9 gravity	1.01
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.11
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.19
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.34
39 to 39.9 gravity	1.37
40 to 40.9 gravity	1.40
41 to 41.9 gravity	1.43
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.49
44 to 44.9 gravity	1.52
45 to 45.9 gravity	1.55
46 to 46.9 gravity	1.58
47 to 47.9 gravity	1.61
48 to 48.9 gravity	1.64
49 to 49.9 gravity	1.67
50 to 50.9 gravity	1.70
51 to 51.9 gravity	1.73
52 and above	1.76
LOUISIANA-ARKANSAS	
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley*	
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company).	
27 to 27.9 gravity	.81
28 to 28.9 gravity	.88
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.09
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.21
34 to 34.9 gravity	1.26
35 to 35.9 gravity	1.31
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.46
39 to 39.9 gravity	1.51
40 to 40.9 gravity	1.56
41 to 41.9 gravity	1.61
42 to 42.9 gravity	1.66
43 to 43.9 gravity	1.71
44 gravity and above	1.76

*Shreveport-Eldorado's postings stop at above 40 gravity.

**Below 36 gravity, the posting on Cotton Valley is 75 cents. From 36 to 52 and above the regular gravity schedule is followed.

STEPHENS
(All Companies)

Below 28 gravity	.75
28 to 28.9 gravity	.79
29 to 29.9 gravity	.83
30 to 30.9 gravity	.87
31 to 31.9 gravity	.91
32 gravity and above	.95

SMACKOVER
(All Companies)

Below 24 gravity	.75
24 and above	.90
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.85
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

	Week Ended Dec. 22	Week Ended Dec. 15
AT ATLANTIC COAST PORTS:		
Baltimore	175,000	.....
Boston	69,000	141,000
New York	820,000	908,000
Philadelphia	271,000	228,000
Others	70,000	*65,000
Total	1,405,000	1,342,000
Daily Average	200,714	191,714
AT GULF COAST PORTS:		
Galveston District	90,000	.....
New Orleans and Baton Rouge	168,000	364,000
Port Arthur and Sabine District	73,000	.....
Tampa	.....	.....
Total	331,000	364,000
Daily Average	47,286	52,000
AT ALL UNITED STATES PORTS:		
Total	1,736,000	1,706,000
Daily Average	248,000	243,714
Daily Average Four Weeks Ended	261,286	277,000

*Revised.

RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

	Week Ended Dec. 22	Week Ended Dec. 15
AT ATLANTIC COAST PORTS		
Baltimore	.....	74,000
Boston	92,000	.....
New York	66,000	78,000
Philadelphia	116,000	.....
Others	95,000	.....
Total	369,000	152,000
Daily Average	52,714	21,714
AT GULF COAST PORTS—TOTAL	.....	75,000
Daily Average	.....	10,714
TOTAL—ATLANTIC AND GULF COAST PORTS	369,000	227,000
Daily Average	52,714	32,428
Daily Average Four Weeks Ended	59,571	62,607
Distribution of Total California Oil Receipts is as follows:		
Crude	.....	74,000
Gasoline	274,000	153,000
Gas Oil	.....	.....
Kerosene	95,000	.....
Total	369,000	227,000

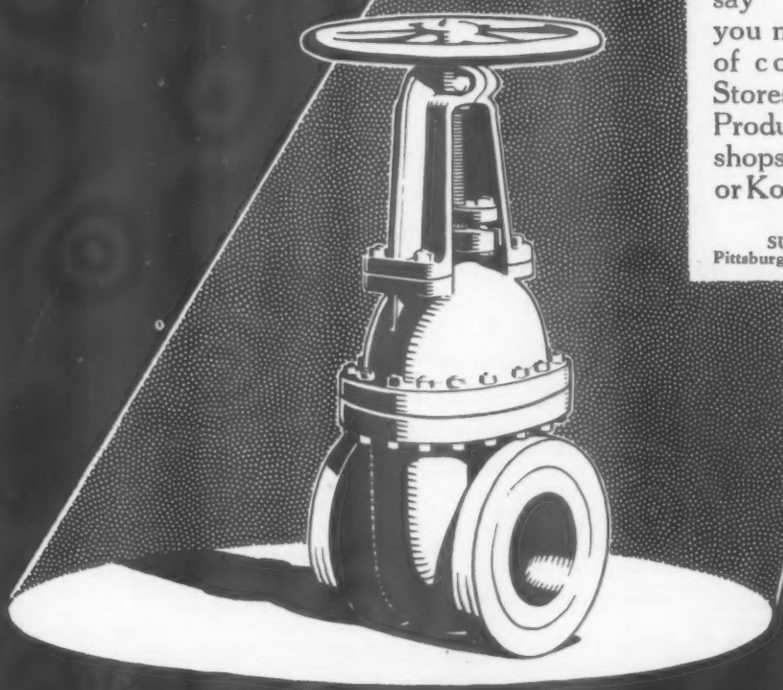
FRICK-REID

Whatever You Build You Need

WALWORTH

All through the fabric of American industry you find Walworth Valves, Fittings and Tools like a bright thread essential to the pattern in an old tapestry. Men have come to say "Whatever you build you need Walworth." So of course Frick-Reid Stores have Walworth Products, just as gun shops have ammunition or Kodak shops have films.

FRICK - REID
SUPPLY CORPORATION
Pittsburgh, Pa. Tulsa, Okla.



WALWORTH VALVES

Axelson Machine Co.
Sucker Rods, Pull Rods, Plunger Working Barrels (Pumps) etc.

Beaumont Iron Works Company
Dreadnaught Rotary Equipment Water-Cooled Drawworks, Pump-in Hoists, Traveling Blocks, etc.

Donovan Boiler Works
Oil Country Boilers and Tanks

Frick-Reid Service Belting
Rubber Covered and Friction Surface

National Transit Pump and Machine Co.
Power and Steam Pumps.

J. P. Ratigan
Grips, Clamps, Beam Hangers

Joseph Reid Gas Engine Company
Gas and Oil Engines, two and four-cycle, Band Wheel and Direct Drive Pumping Powers.

Whitlock Cordage Co.
Manila Cordage, including Frick-Reid- Manila Bull Ropes—same quality for ten years.

Jones & Laughlin Steel Corp.
Seamless and Lapweld Tubular Goods.

Walworth Company
Valves, Fittings and Tools for Steam, Water, Gas, Oil and Air.

Rossendale-Reddaway Company
"Camel Hair" Beltings, Belt Clamps.

Engineering Crews
for the installation of Pumping Powers and related equipment.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	6	4	4	..	..	2	2	2	1,166	....
California	15	23	14	22	..	..	1	1	14,650	44,825
Colorado	4	..	4	..	..	..	..	..	317	....
Illinois	3	..	2	..	..	..	1	..	22	....
Indiana	10	7	4	5	1	..	5	2	70	85
Kansas	5	14	2	4	..	1	3	9	155	3,550
Kentucky	29	23	20	16	..	..	9	7	494	616
Louisiana	14	17	8	5	6	3	..	9	2,565	2,540
Michigan	9	8	7	2	2	3	..	3	615	400
Montana	10	..	10	..	..	..	..	..	2,793	....
New York	18	25	18	25	..	..	..	..	44	112
Ohio	42	46	18	20	17	16	7	10	307	368
Oklahoma	65	58	31	28	9	5	25	25	24,596	13,085
Pennsylvania	55	80	51	61	4	9	..	10	123	208
Texas	129	116	88	69	5	4	36	43	120,671	33,647
West Virginia	11	22	3	3	7	15	1	4	38	32
Total	425	443	284	260	51	58	90	125	168,626	99,468
Increase this week	..	..	24	..	..	..	..	..	69,158	....
Decrease this week	18	..	..	..	7	..	35	..	....	....

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
ELLIS COUNTY—		
Mid-West Exploration Co., Austin 1, ne cor, 36-12-16w	75	3087
McPHERSON COUNTY—		
White Eagle Oil & Ref. Co., Larson 1, se nw sw, 31-18-2w	*	3045
RUSSELL COUNTY—		
Mid-West Exploration Co., Dortland 16, se nw se, 5-14-15w	80	3086
Liggett et al, Stewart 1, se, 17-11-15w	*	....
SUMNER COUNTY—		
Helmerick & Payne, Wartick 1, se ne, 8-34-2e	*	3855

OKLAHOMA

Company, well and Location	Initial Production Bbls.	Depth
CADDO PARISH—		
Magnolia Pet. Co., Moss 3, ne nw sw, Sec 5-5n-9w	6	2445
CREEK COUNTY—		
Roxana Pet. Corp., Jones nw se nw, Sec. 7-15n-7e	¶31	3638
Silurian Oil Co. & Houston Oil Co., Anthis 1, sw se, 6-19n-7e	110	3107
Magnolia Pet. Co., Lewis 9, sw cor, 27-17n-7e	5	2818
Roxaline Pet. Co., Hutching 1-A, 27-17n-12e	¶3	1790
Atlantic Oil Prod. Co., Thomas 1, sw ne ne, 32-15n-7e	*	4105
Shaffer Oil & Ref. Co., R. L. Jones 1, sw ne, 26-18n-7e	*	3583
Gled Oil Co., Crawford 1, c se nw, 28-19-9	*	2278
Winemiller Oil Corp., Stewart 1, nw sw se, 32-17n-12	*	2498
GARVIN COUNTY—		
Magnolia Pet. Co., Tussy 2, sw nw se, 31-1n-3w	*	3507
GRADY COUNTY—		
Champlin Ref. Co., Kerans 1, ne, 23-4n-8w	¶4½	2340
Oklahoma Gas Utilities, Chandler 5, se ne se, 27-5n-8w	¶11	2400
Oklahoma Nat. Gas Co., Edmundson 4, se nw, 23-5n-8w	¶24	2299
Twin State Oil Co., Pettitt 3, se ne ne, 14-4n-8w	*	2375
HUGHES COUNTY—		
Amerada Pet. Corp., Frederick 1, owd, nw ne nw, 5-7n-8e	*	4984
KAY COUNTY—		
Ingram & Wilson, Wiliegrube 1, sw ne ne nw, 23-27n-1e	*	835
D. J. Wilson, Meuret 2, c se ne, 14-27n-1e	*	785
Ingram & Wilson, School Land No. 76, nw ne se, 36-28n-1w	*	725
KIOWA COUNTY—		
Bridwell et al, Foster 1, se nw, 18-6w-16w	*	500
LOGAN COUNTY—		
Shell Pet. Corp., Rouse "B" 2, nw ne ne, 19-19n-4w	1050	6245
LINCOLN COUNTY—		
Kingwood Oil Co., Jennings 1, sw cor, 10-12n-6e	*	4627
MUSKOGEE COUNTY—		
L. T. Haney, L. Holt 1, nw ne nw, 20-14n-20e	¶½	1000
OKFUSKEE COUNTY—		
Devonian Oil Co., Fier 5, c sw ne, 11-10-11	5	2101
Jarvis & Holm et al, Fier 1, se sw, 16-10-11	65	2857
Josey Oil Co., McCoy 19, nw ne sw, 33-12-11	350	3728
Independent Oil & Gas Co., Hall 2, sw ne ne, 29-12n-10	*	3178
OKMULGEE COUNTY—		
C. Peterson, Ware 6, nw sw sw, 9-15n-14e	¶8	1426
Dixie Oil Co., Henry 1, ne sw, 27-12n-12	*	3396
Frank Murta et al, J. C. Donegby 1, nw ne, 8-15-12	*	2756
OSAGE COUNTY—		
L. G. Stanley, No. 3, se sw nw se, 36-22-8	50	537
Galt Brown, No. 2, sw ne nw, 7-24-8	50	2354
Branstetter & Barnsdall Oil Co., No. 3, sw nw sw, 23-22-11	*	2150
A. M. Barbour, No. 1, nw ne ne, 32-23-9	*	350
White Eagle Oil & Ref. Co., No. 1, se ne, 25-26-6	*	2802
A. D. Morton, No. 1, ne se, 1-26-6	*	3293
PAYNE COUNTY—		
Pure Oil Co., Ramsey 3, ne se, 7-18n-4e	480	4265
Pure Oil Company, Weir 1-A, sw nw, 8-18n-4e	718	4215
PITTSBURG COUNTY—		
Quinton & Spelter Co., Dougherty 1, c sw ne, 10-7n-18e	¶30	2035
PONTOTOC COUNTY—		
Roxana Pet. Corp., Smith 1, nw sw, 20-4n-4e	*	2610
Louisiana Oil & Ref. Co., Perry 1, owd, ne cor, 19-5n-8e	*	2900
POTTAWATOMIE COUNTY—		
Roxana Pet. Corp., Smith 1, sw nw, 21-7n-5e	795	4183
Indian Territory Ill. Oil Co., Weams 2, nw sw, 21-7n-5e	30	4265
Pure Oil Co., Thomas 3, ne, 26-7n-4e	3730	4239
2, cnl, ne ne, 26-7n-4e	2822	4303
Magnolia Pet. Co., Cherry "B" 1, se ne, 26-7n-4e	735	4420
Texas Company, Cherry 4, nw, 25-7n-4e	4080	4256
3, ne nw nw, 25-7n-4e	1430	4332
Mid-Kansas, Gesselman 4, ne sw nw, 25-7n-4e	420	4262
McCullough Oil Co., Smith 3, sw nw se, 25-7n-4e	580	4153
Westheimer & Daube, Freid 5, sw se nw, 24-7n-4e	770	4252
Magnolia Pet. Co., Wilbarn 3, sw ne se, 24-7n-4e	372	4119
Shaffer Oil & Ref. Co., Cherry 4, se, 23-7n-4e	2117	4368
Tolon 1, owd, ne se sw, 30-7n-5e	1000	3985
Texas Company, Zoeller 3, nw se se, 30-7n-5e	*	*
Zoeller 4, ne se se, 30-7n-5e	*	*
SEMINOLE COUNTY—		
Texas Co., Lucy 3, nw se se, 18-5n-8e	510	2590
Barnsdall Oil Co., Hotulke 3, se ne se, 22-7n-6e	340	4250
W. B. Pine 1, (water well) csl sw se, 6-8n-6e	5	425
Sinclair Oil & Gas Co., Amos "C" 2, owd, se ne sw, 7-5n-8e	50	4160
Carter Oil Co., James 6, se ne sw, 6-9n-6e	1740	4380
Gypsy Oil Co., Sango 15, c ne se, 1-9n-5e	91	4537
Harris et al, Harris 1, se nw, 30-9n-8e	*	4582
STEPHENS COUNTY—		
Harry Hanbury, Taliaferro 3, sw se ne se, 28-1s-8w	90	2479
WAGONER COUNTY—		
McCracken, Childers 6, ne se, 21-18n-17e	¶3½	775
Ellen Oil & Gas Co., Heckman 1, nw se sw, 7-18n-15e	*	1295

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
DOMINGUEZ—		
Union Oil Co., Callender 24	200	4260
LONG BEACH—		
Boyd Hammond, No. 2	200	6160
C. L. Anderson, Drake 1	500	6600
T. J. Cannon, Hall-Webber 1-A	1800	5940
Painted Hills Oil Co., Bruner 3	250	3317
Shell Co., Jones 9	700	7370
Nesa 10	200	7320
Pickler 9	200	7500
The Petroleum Co., Beck 4	1400	6010
SANTA FE SPRINGS—		
Associated Oil Co., Dewenter 7	2500	5690
General Petroleum Corp. 178-A	1200	5510
George F. Getty, Inc., No. 18	4000	5940
No. 21	900	5790
VENTURA—		
Shell Co., Gosnell 28	600	7147

MOUNTAIN STATES

COLORADO

Company, Well and Location	Initial Production Bbls.	Depth
FREMONT COUNTY—		
Donnelly Bros., Owens & Bolagna 1, se 7-19-69	35	2025
Wade Petroleum, Inc., Robinson, ne 3-19-70 (lost hole and then abn)	25	2011
Texas Prod. Co., Henry Dennis 5, nw 17-6n-86	160	3105
Henry Dennis 2, nw 17-6n-86	97	3150

MONTANA

Company, Well and Location	Initial Production Bbls.	Depth
KEVIN-SUNBURST—		
Campbell et al, 75, ne 13-34-2w	1403	....
PONDERA—		
Dontinental Dev. Co., Jones 1, sw 9-27-4w	200	2000
Eulton Pet. Corp., Jones 2, se 9-27-4w	150	2105
Rice-Burks, Bank 10, 15-27-4w	100	2018
Continental Dev. Co., Wheeler 3, 24-27-4w	150	2000
Rice Burks, Bank 4, 15-27-4w	160	2100
P. & R. Oil Co., Copley 3 (south), 15-27-4w	180	2000
Texas Prod. Co., Kingsbury 8, 15-27-4w	165	1985
Midwest Ref. Co., Copley 31, se 10-27-4w	150	2000
Texas Pacific Coal & Oil Co., Hirshberg 10, sw 14-27-4w	135	2050

THE LAYNE

Mill Grooved Screen

This new mill grooved screen has met with hearty approval from many hundreds of users.

In practically every instance where this new screem was substituted for the old style screen, production was increased from 33-1/3% to over 100%.

Where it is placed in new wells production is generally much higher than on other wells in the same area using another type screen.

Don't take our word for it—
Ask the producer that
has used it.

The Layne & Bowler Co.

Houston, Texas

THE LAYNE-NEW YORK CO.
30 Church St., New York

VICKERS, LIMITED
London, England

THE LAYNE & BOWLER CORP.
Los Angeles, Calif.

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn Oil Co., Bingham 499, tr 3	3	....
Bingham 399, tr 3	3	....
Bingham 450, tr 98	2	....
Hallock & Co. 102	2	....
Melvin 256	2	....
Melvin 257	2	....
Enterprise 4	2	....
Whipple 27	2	....
Pressure Oil Co., Doubleday 3	4	....
Minnich Bros., Minnich 3	3	....
Coast, Storms & Co., Hanes 1	4	....
C. A. Duke, D. C. & B. 18	4	....
C. A. Hughes, Scio 1	4	....
C. P. Byron, Bingham 577, tr 1	3	....
J. W. Kaufman, Rounds 25	3	....
Kepner Oil Co., Kepner 5	4	....
A. L. Lilley & Co., Middaugh 30	3	....
Sarah Sprague, Sprague 1	3	....
Zook & Sloan, Potter I-10	2	....
Potter A-4	2	....
Potter N-5	2	....
Potter H-15	2	....
Hazlewood Oil Co., Lot 28, tr 72	2	....
Bingham 186, tr 13	4	....
Elder & Hooper, Bingham 392, tr 31	2	....
James George & Co., Bingham 370, tr 37	4	....
Dana & Dana, Kinley 2	4	....
Hilliard & Dodge, Dodge & Co. 2	3	....
C. Bush & Co., Bush 1	4	....
T. H. Kennedy, Kennedy 7	4	....
G. C. Rice & Co., Weston 5	2	....
Hooker & Co., Hooker 1	2	....
F. A. Wild & Co., Franchot 3	2	....
DeGloier & Co., Franchot 2	2	....
A. W. Palmer, Palmer 1	2	....
Mchan & Grant, Bingham 425, tr 1	3	....
D. M. Hoffman, Hoffman 1	2	....
Wood & Co., Huntington 1	2	....
Huntington 2	2	....
C. A. Duke, Hemlock 1	2	....
Clara B. Kervin, Baldwin 9	2	....
Baldwin 10	2	....
Loop & Bell, Hoffman 1	2	....
Lane & Co., Bingham 371, tr 54	2	....
E. E. Bryner & Co., Franchot 1	2	....
McSweeney & Co., Lawton 1	2	....
Ellen Berry, Berry 4	2	....
GREENE COUNTY—		
Carnegie Nat. Gas Co., Lemley 1	¶2	....
Peoples Nat. Gas Co., Lemley 1	¶1¼	....
Foley, Fox & Co. 2	¶2	....
McCracken & Fry, Bryan 1	¶2	....
CENTER-MIDDLE FIELD—		
D. B. Whitehill, Wardwell 1	2	....
Wardwell 2	2	....
Perry & Co., Perry 2	2	....

NEW YORK

ALLEGANY COUNTY—		
First Nat. Bank of Olean, McCaffrey 1	2	....
McCaffrey 2	2	....
A. H. Ashworth, Ashworth 3	2	....
Ashworth 4	2	....
W. J. Weidman & Co., Weidman 1	2	....
Weidman 2	2	....
Woodard & Co., Woodard 4	3	....
Colegrove & Co., Colegrove 3	2	....
J. W. Johnson & Co., Johnson 3	2	....
M. J. Crowley & Co., Crowley 15	3	....
Phillips & Co., Warter 5	2	....
Garr Oil Co., Garr 1	2	....
Joseph Sutter, Sutter 3	2	....
LeSuer, LeSuer 48	2	....
Dusenbury & Co., Wheaton 3	3	....
Moore & Co., Moore 3	2	....
Ruland & Co., Sanders 2	2	....
C. H. Lavans & Co., Lavans 9	7	....

WEST VIRGINIA

RITCHIE COUNTY—		
Del Rio Oil Co., Stress 9	30	....
Reno Oil Co., Mullenex 10	5	....
Daniel O'Day & Co., Baker 1	3	....
Bachelor & Co., McCullough 5	¶1	....
Cairo Oil Co., Ayres 1	¶1	....
CALHOUN COUNTY—		
Carnegie Nat. Gas Co., Wilmoth 1	¶1¼	....
G. L. Cabot, Harris 1	¶1	....
LEWIS COUNTY—		
Mid-Penn Oil Co., Cole 5	¶2	....
ROANOKE COUNTY—		
Foster Bros., Crislip 1	¶1¼	....
HARRISON COUNTY—		
Reserve Gas Co. Titro 1	¶2	3295
WOOD COUNTY—		
Pleasant Hill Oil Co., Marshall 2	*	....

KENTUCKY

DAVIESS COUNTY—		
Smith, Randolph & Co., Wells 5	80	1420
Cumberland Petroleum Co., Easton 1	60	781
The Petroleum Co., Burns 6	35	....
Burns 7	20	....
Burns 8	60	....
Gray & Havens, Fuqua 2	*	....
Keeper Oil Co., Veach 4	*	....
Pratt Bros., Richardson 1	*	....
Wood Oil Co., Tanner 1	*	....
OHIO COUNTY—		
Mecca Oil Co., Wells 18	50	....
J. C. Ellis & Co., Moseley 2	20	....
Keith 9	*	....
Bigler & Becker, Hendrick 6	25	....
National Deposit Bank, Brown Heirs 3	*	450
Snowden-McSweeney Co., Midkiff 11	5	750
Wood Oil Co., Rogers 1	35	....
Ohio Oil Co., Ellis 19	35	....
Patton 4	10	....
Whitehill & Reich, Ambrose 3	10	697
Chester Oil Co., King 1	10	687
BRECKENRIDGE COUNTY—		
Hood & Co., Glendean 1	*	....
ESTILL COUNTY—		
Superior Oil Corp., West & Co. 22	2	....
Henderson 28	2	....
Tipton 13	1	....
Snowden & Co., Wallace 3	*	....
MAGOFFIN COUNTY—		
Hupp, Duff & Co., Whitt 10	25	....
Hamlin-Tanner Oil Co., Tackett 3	4	....
WARREN COUNTY—		
William Gettings & Co., McGinnis 5	5	715
Johnson & Julian, Jenkins 14	*	576

SOUTHEASTERN OHIO

MORGAN COUNTY—		
Henning Bros., Harper 25	¶¼	1575
Sutton Bros., Hotchkiss 4	¶¼	1486
Burns Oil Co., Woolman 13	¶¼	1653
Bauman & Co., Shuster 8	¶¼	1452
MONROE COUNTY—		
Ohio Fuel Gas Co., Stallings 1	¶½	1930
Albert Hayes & Co., Hartshorn 2	¶¼	1378
WASHINGTON COUNTY—		
Kellogg Oil Co., Kellogg 1	¶¼	1604
Preston Oil Co., Wynn 2	1	963
NOBLE COUNTY—		
Local Oil Co., Mallett Heirs 5	5	936

CENTRAL OHIO

LICKING COUNTY—		
Emerald Pet. Co., Martin 1	12	818
Wehlie O. & G. Co., Zertman 5	¶¼	2417
G. H. Long, Long 5	3	914
Preston Oil Co., Ashcraft 1	3	767
Lear 1	6	....
Whitehill Gas Co., Ashcraft 7	11	679
Ohio Fuel Gas Co., Hupp 1	¶¼	2962
ATHENS COUNTY—		
Fox & Mosure, Bean 6	1	133
Smith & Thomas, Curtis 7	1	230
Ohio Fuel Gas Co., Elliott 5	¶¼	1437
MUSKINGUM COUNTY—		
Mid-East Oil Co., Knight 1	87	4058
Pure Oil Co., Hoover 3	12	2907
CUYAHOGA COUNTY—		
Dillon & McFredericks, Beriswell 3	¶¼-8	....
John Arthur, Beck 1	¶1	....
HOLMES COUNTY—		
I. E. O'Hail, Young 3	¶½	3444
Tatgenhorst & Co., Hanna 1	*	....
HOCKING COUNTY—		
Bell & Scholl, Hartsell 5	70	2870
VINTON COUNTY—		
Co-operative Oil Co., Beckley 7	7	1138
COSHOCTON COUNTY—		
Pure Oil Co., Buckley 3	5	707
WAYNE COUNTY—		
Ohio Fuel Gas Co., Faber 2	¶¼	....
LORAIN COUNTY—		
Logan Gas, Malik 1	¶1	....
JACKSON COUNTY—		
Ohio Fuel Gas Co., Neary 1	¶½	2783
MEIGS COUNTY—		
Bowman Run O. & G. Co., Holter 1	¶1	1162
FAIRFIELD COUNTY—		
Ohio Fuel Gas Co., Shaw 2	¶¼	264
MEDINA COUNTY—		
Logan Gas Co., Simpson 1	*	....
TUSCARAWAS COUNTY—		
Palmer & Geisinger, Sugar Creek Clay Products 1	*	434
ASHLAND COUNTY—		
L. D. Hendershot, Moffett 1	*	....

NORTHWESTERN OHIO

SENACA COUNTY—		
Robert Maybier & Co., King 1	*	....
J. H. Murphy & Son, Leister-Tillotson 4	*	1503
Tiffin-Columbus Oil Co., Scherger 1	*	1702
HANCOCK COUNTY—		
Bath Township Oil Co., Henry 4	50	1690
ALLEN COUNTY—		
C. A. Peavey & Co., Vore 2	20	1357
MERCER COUNTY—		
Margaret E. Grace, Roebuck 2	5	1197

INDIANA

SPENCER COUNTY—		
Packard Oil Co., Ray 1	25	425
Wood Oil Co., Inc., Butler 1	*	1080
GIBSON COUNTY—		
Bell & Co., Nixon 1	*	1670
J. S. Young & Co., Wilderman 3	*	1480
SULLIVAN COUNTY—		
Chas. W. Scott & Co., Scott 2	15	2176
JAY COUNTY—		
Dee Wesner, Current 1	25	....
STEUBEN COUNTY—		
B. O. Reynolds, Snowberger 1	5	....
RUSH COUNTY—		
Rushville Gas Co., Carthage 1	¶1½	....
PIKE COUNTY—		
Hoosier Drilling Co., Martin 1	*	1166
CRAWFORD COUNTY—		
Henderson Bros., Jones 1	*	1528

ILLINOIS

WABASH COUNTY—		
J. D. Toomey & Co., Courter 17	20	1515
CRAWFORD COUNTY—		
Phipps, Blosser & Co., Davis 2	2	1540
MARION COUNTY—		
The Benoist-Finn Oil Co., Finn 1	*	2556

MICHIGAN

MUSKEGON COUNTY—		
Brien & Brien, Fagan 1	100	....
Buckeye Oil & Gas Co., Van Loo 1	100	2061
Continental Motors Corp., Fee 4	30	....
Midwest Pet. Co., Heinz 1	200	2047
Meeske Dev. Co., Drost 2	100	2064
United O. & G. Co., Cooper 1	50	1876
Central O. & G. Co., Joldersema 1	35	1666
Shoup Oil Co., Shoup 1	¶12	....
Lake State O. & G. Co., Cooley 1	¶14	2043

NORTH LOUISIANA

CADDO PARISH—		
Dixie Oil Co., Files & Mabry B-6, 14-21-15	40	3800
MOREHOUSE PARISH—		
Natural Gas Prod. Co., Crossett Lbr. Co. 21, 22-21-4e	¶12	2167
Southern Carbon Co., Tensas-Delta 7, 22-21-4e	¶12½	2161
OUACHITA PARISH—		
Pipes & Mach, Wright 1, 11-18-4e	¶1	2210
RED RIVER PARISH—		
Rock Pet. Co.'s Pierson 1, 12-14-11	25	1761
RICHLAND PARISH—		
Richland Prod. Co., Sartor D-1, 32-16-6e	¶11	2450
WEBSTER PARISH—		
Magnolia Pet. Co., M. Branton 1, 5-22-9	¶5½	2639

ARKANSAS

UNION COUNTY—		
C. E. Murdock, Gregory 1, 10-17-14, wo	500	3207
Union Sawmill 2, 6-17-13	60	3006
Ohio Oil Co., J. S. Alphin 1, 7-17-13	594	3039
Magnolia Pet. Co., G. C. Dumas 2, 11-17-14	12	3227
Stark et al, Powell 1, 35-18-15	*	3510

Over all Gasdom *and* Oildom

INTO the great empires of King Petroleum and Queen Gas go flock after flock of Metric Meters. Continually migrating from their home in the northwest corner of Pennsylvania, these master-measurers answer the call for accuracy coming from every state and country where men are engaged in producing, refining and marketing. To the industry at large and to each specialized branch, they carry a message that means in measuring services simple and sturdy construction; long-lasting, trouble-free operation; minimum attention for maintenance; and concentrated accuracy.

Cultivate better measurement
Call for Metrics

SALES
SERVICE

Westcott & Greis, Inc.

Tulsa — Dallas — Los Angeles

METRIC METAL WORKS

of the American Meter Company-Inc.

ERIE - PENNSYLVANIA - U-S-A

Say you saw it in The OIL WEEKLY

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
EAST HACKBERRY—		
Calcasieu Oil Co., Valery 5	1200	3868
Watkins 12	900	3960
EDGERLY—		
Rex Pet. Co., Louisiana Prairie Narroni 1, wo	15	4550
EVANGELINE—		
Ratcliff Oil Co., Martin 11, wo	60	1785
LOCKPORT—		
Vacuum-Gulf, Miller 3, wo	300	5065

TEXAS

TEXAS GULF COAST

BATSON—		
East Batson Oil Co., Stateland 16..	5	915
Deutser Oil Co., Trustee 18	10	1075
BLUE RIDGE—		
South Texas Pet. Co., Lafferty 1, wo	400	3615
Moody Corp., West-Schenck 4	450	3175
Gulf, Blakely B-1	150	3970
HULL—		
Republic Prod. Co., Dolbear 22, wo	500	2835
Big Six Oil Co., Stovall (Ford) 2..	15	255
PIERCE JUNCTION—		
Moody Corp., Whitehead B-3	1500	4720
RACCOON BEND—		
Humble, Bracey B-1	1200	3357
SOUR LAKE—		
Theis Oil Co., Jackson 9	*	2705
SOUTH LIBERTY—		
The Texas Co., Staiti (Monroe) 17	60	835
Gulf, McLean 1	700	825
SALT FLAT—		
Cranfill & Reynolds, Smith 1	636	2685
Gulf Prod. Co., Connally 2	500	2743
Connally 3	900	2705
Connally 4	1200	2704
DUVAL COUNTY—		
Sun Oil Co., Norton 1, Schoolfield-O'Byrne pool	900	2358
WEBB COUNTY—		
Rycade Oil Corp., Yeager-Strohman 6, Albercas	900	2170
ZAPATA COUNTY—		
O. W. Killam, Cuellar 8, Cerrito Blanco grant	100	1461
South Texas Prod. Co., Jennings 2, Jennings ranch	¶15	1435
NUECES COUNTY—		
Houston Oil Co., Anderson 1, Aqua Dulce	¶50	2025

CENTRAL WEST TEXAS

BROWN COUNTY—		
Amerada Pet. Corp., Guthrie 1	*	742
Acrey Bros. et al, Gaines 1	*	1553
Clark-Buffalo Oil Co., Weldon 1	*	1740
Humble O. & R. Co., Hickman 27..	15	1238
CALLAHAN COUNTY—		
Empire G. & F. Co., Sealy 1	*	4174
Grass Roots Oil Co., Klutts 6	20	474
Prairie O. & G. Co., Sawyer 2	5	1702
True & Dees' McLendon 1	*	800
COLEMAN COUNTY—		
Continental-Atlantic et al, Hinds 2..	*	2280
Continental Oil Co. et al, Overall 10	35	2134
Dunigan & McCrady, Rice 4	*	1155
Foster et al, Overall 1	*	2401
Lyles et al, Manning 1	*	3101
McClung & Hickey, Standbridge 1..	*	2350
States Oil Corp., Morris 2	¶5	1682
Toombs & Eppler, Chandler 1	*	2478
COMANCHE COUNTY—		
Davis et al, Perry 1	30	2928
EASTLAND COUNTY—		
Davis et al, Horn 1	*	1605
Goodwin et al, Parker 2	30	1511
Gordon et al, McHenson 1	*	3380
Jake Hamon Jr. et al, Hartwick 1..	*	1253
PALO PINTO COUNTY—		
T. P. Coal & Oil Co., Stewart 158..	35	1636
SHACKELFORD COUNTY—		
Marland Prod. Co., Flippen 1	*	930
Petroleum Producers Co., Davis 1..	60	1629
Roeser-Pendleton-Marland Prod. Co., Cook 29-A, (Sec. 61)	100	1367
Cook 4-A, (Sec. 83)	110	1381
Cook 8-B, (Sec. 61)	90	1349
Tannehill et al, Matthews 10, (Sec. 58)	25	1005
STEPHENS COUNTY—		
Gulf Prod. Co., J. M. Gholson 2	¶8½	2007
Hickok Prod. & Dev. Co., Hamil 2	¶¼	4611
Texas-La. Power Co., Tomlinson 1..	*	1725

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CRANE COUNTY—		
Tidal Oil Co.-Turman & Maxwell, University 1-D	220	3116
FISHER COUNTY—		
Cranfill-Reynolds-Sun Oil Co., Sharp 1	200	3140
HOWARD COUNTY—		
Bristow & Merrick, Roberts 2	800	2990
Greene O. & R. Co., Clay 4	125	1820
Pure Oil Co., Otis Chalk 7	150	1754
Sun Oil Co., Settles 4	700	2552
Superior Oil Prod. Co., Roberts 9-B	2800	2960
JONES COUNTY—		
Cranfill-Reynolds-Dilworth, Bickley 1	75	2496
Roeser-Pendleton et al, Grayson 3..	80	2534
PECOS COUNTY—		
Gulf Prod. Co., M. A. Smith 13	9600	1490
Shell Pet. Corp., M. A. Smith 3-D..	75	1738
M. A. Smith 1-E	40	1330
WINKLER COUNTY—		
Atlantic Oil Prod. Co., Hendrick 7-G	4440	2630
Atlantic-Kessler-Logan, Daugherty 2	900	3168
Cranfill Bros. Oil Co. & Pickrell, Hutchings 1	100	3250
Gulf Prod. Co., Ida Hendrick 1	425	2285
E. W. Cowden 1	20,500	2968
Pure O. Co., Hendrick 12-C	30,000	2579
Hendrick 13-C	13,500	2604
Republic Prod. Co., Hendrick 5-A..	15,00	2737
Southern Crude & R. A. Westbrook, Ida Hendrick 3-J-T-88	220	2988
Ida Hendrick 5-J-T-88	150	2930
T. G. Hendrick 9-M-T-88	3600	2770
T. G. Hendrick 27-M-T-88	1750	2881

NORTH TEXAS

ARCHER COUNTY—		
Continental & Republic, S. E. Oldham 6	10	1063
F. C. Grebin et al, Alexander 1	25	1429
C. E. Litchfield et al, G. N. Gant 1	*	1925
Madden & Hunt, Richardson 13	25	1311
Jim Turner et al, J. D. Lyles 3	120	1698
Texas Co., R. E. Hill 23	20	1425
COOKE COUNTY—		
Kewanee O. & G. Co., R. J. Timmis 4-A	150	1408
Thornton-Taubert Oil Co., A. J. Dennis 1	15	1304
ELECTRA—		
Gulf Prod. Co., J. L. Waggoner 7-D	*	1965
W. H. Hammon et al, McCarty 13-C	35	1365
Mrs. R. A. Laning et al, McCarty 8, Lease 3	25	1372
McCarty 9, Lease 3	*	575
FOARD COUNTY—		
Fain-McGaha-Shell Pet. Corp., Matthews 3	*	2550
JACK COUNTY—		
L. M. Linkenfelder et al, N. F. Rudolph 1	*	840
Prairie O. & G. Co., Bryson 1	350	3112
K-M-A AND IOWA PARK—		
Coleman & Coppock, K. & K. 18..	90	1495
Comac & Prairie O. & G. Co., Bishop 2	50	1787
Hammon Garrett, S. Mitchell 5	25	1333
Holbrook & Wood, K. & K. 27	515	1487
Staley, Wynne & Co., K. & K. 8	545	1488
United Producers Co., Hodges 5-A.	10	1485
Hodges 6-A	575	1480
Hodges 2-B	50	1490
MONTAGUE COUNTY—		
Bridwell Oil Co., Salmon 8-A	*	1613
Continental O. Co., W. W. Jones 5-A	15	786
WILBARGER COUNTY—		
Baker et al, Waggoner 10-B	170	1893
Consolidated Oil Co., Hauser 1	*	2507
Derby Oil Co., Waggoner 1-C	*	2439
Fain-McGaha Oil Corp., Waggoner 22-S	200	2420
E. B. Lawson et al, Waggoner 12-B	5	2435
Phillips Pet. Co., Waggoner 5-OO..	15	1907
The Texas Co., Waggoner 9-B	90	2443
Staley-Wynne & Texas Co., Waggoner 1	*	2503
Waggoner Ref. Co., Waggoner 12-H	150	2414
Waggoner 13-H	205	2432
YOUNG COUNTY—		
Holbrook & Woods, Watson 6-B	*	755
Meredith et al, Simmons 1	*	585
Rhodes et al, Eichelberger 1	*	618
Riggs et al, Sweet 9	15	557
Strachan et al, Duncan 1	*	599

TEXAS PANHANDLE

GRAY COUNTY—		
Gulf Prod. Co. G. H. Saunders 1	¶30-510	2550
Magnolia Pet. Co., G. H. Saunders 1	45	2716
HUTCHINSON COUNTY—		
Phillips Pet. Co., Perkins-Martin 19	50	2988
MOORE COUNTY—		
Phillips Pet. Co., Sneed-James 1	310	3180

Oil and Gas Lectures

Tulsa.—"Oil & Gas Lectures" is the title of book cevoring many phases of production and refining which will be available shortly and which is made up of 22 lectures given by many of the well known leaders in the industry. Samuel H. Glassmire, author of "Oil & Gas Royalties," has taken the series of lectures, edited them from extemporaneous lecture form into text book style and submitted them to the various authors for final correction.

Included in the book, "Oil & Gas Lectures," are the following subjects with the author of each:

Oil Economics—W. C. Franklin, Vice-President Tidal Oil Company.

The Industry In the Southwest—Pat Malloy, President Constantin Refining Company.

Oil Fields of the Mid-Continent—George D. Foster, Devonian Oil Company.

Petroleum Geology—Harry F. Wright, Savoy Oil Company.

Texas and Oklahoma Panhandles—M. M. Valerius, H. F. Wilcox Oil Company.

Organization of An Oil Company—P. J. Hurley, President Gilliland Oil Company.

Land Titles In Oklahoma—Joseph L. Hull.

Evolution of the Oil and Gas Lease—James A. Veasey, Vice-President Carter Oil Company.

The Oil and Gas Lease—Rush Greenslade, Vice-President Gypsy Oil Company.

Oil and Gas Royalties—S. H. Glassmire.

Litigation—Judge Summers Hardy, Sinclair Oil & Gas Company.

Production of Oil—R. F. Mac Arthur, Bransdall Oil Company.

Getting the Oil Out of the Sands—James O. Lewis, Petroleum Engineer.

Production By Flooding—Burt H. Collins, Echo Oil Company.

Casinghead Gas and Natural Gasoline—H. B. Barnard, Sinclair Oil and Gas Company.

Accounting, Auditing and Treasury Departments—H. B. Humphreys, Skelly Oil Company.

Taxation—W. A. W. Krebs.

Liabilities, Claims and Insurance—C. L. Swim, Skelly Oil Company.

Pipelines and Common Carriers—B. P. Sibole, Sinclair Oil and Gas Company.

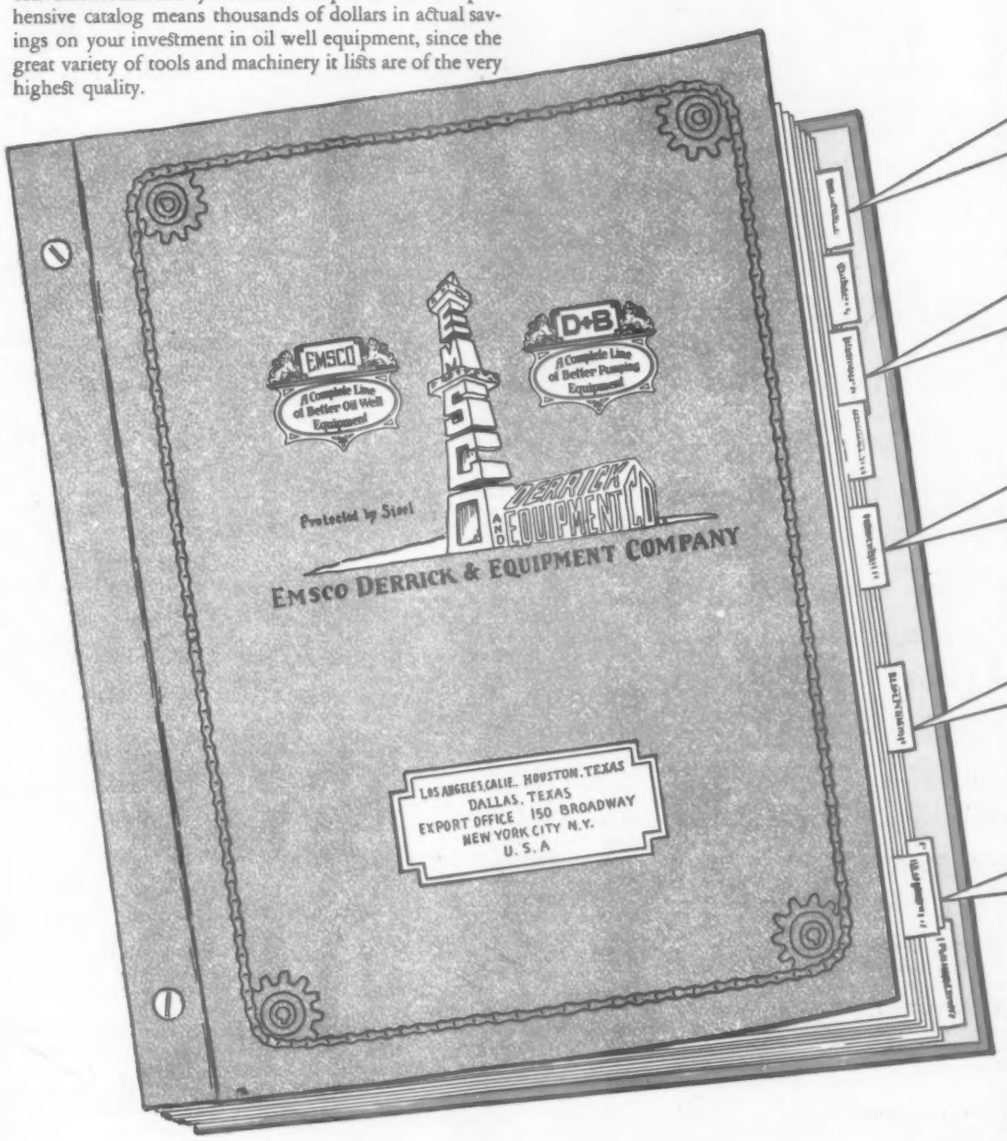
The Refining of Petroleum—Dr. C. K. Francis, Petroleum Technologist.

Refining Companies—F. B. Sherwood, Mid-Continent Petroleum Company.

Traffic and Transportation—A. F. Winn, Skelly Oil Company.

THE *New* EMSCO CATALOG

NO oil company or producer can afford to be without this catalog which has been compiled for your convenience and handy reference. To possess this comprehensive catalog means thousands of dollars in actual savings on your investment in oil well equipment, since the great variety of tools and machinery it lists are of the very highest quality.



ALWAYS UP-TO-DATE

Additional sheets and sections sent promptly as issued.

CONVENIENT

Size endorsed by National Association of Purchasing Agents.

THUMB INDEXED

To save your time, and to facilitate the procedure of referring to the various specific items desired.

COMPLETE

In the compilation of the diversified sizes and types of Emsco Oil Well Equipment . . . in details, descriptions and specifications.

ATTRACTIVE

Beautiful green binding. Richly embossed and decorative cover. Finest Halftone illustrations and line drawings of all products.

Every Oil Field executive and purchasing agent should have a copy of this invaluable catalog. Your copy is waiting. Send for it now

Protected by Steel
EMSCO DERRICK & EQUIPMENT COMPANY
LOS ANGELES, CALIF., HOUSTON, TEXAS-DALLAS, TEXAS
U. S. A.
EXPORT OFFICE: 150 BROADWAY
NEW YORK CITY, N. Y.
U. S. A.

EMSCO STEEL EQUIPPED WELLS ARE SAFE

Say you saw it in The OIL WEEKLY

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending Dec. 29	Previous week	Total this month	Total this year	This week last	This month 1927	Total same date	Year total 1927
Arkansas	..	6	24	331	4	24	329	329
California	28	19	112	1,207	25	156	1,226	1,226
Louisiana	11	8	62	680	7	71	812	812
Kansas	8	29	75	1,032	28	103	972	972
Oklahoma	93	74	395	3,744	71	296	3,703	3,703
Texas	132	199	903	8,297	105	670	8,665	8,665
Mountain States	..	..	..	..	..	9	449	449
Total	272	335	1,571	15,291	240	1,330	16,156	16,156

KANSAS

BARBER COUNTY—Barbara Oil Co., Lytle 1, ne sw, 12-33-13w.

HARVEY COUNTY—Fisher, Lauck & Sandford, Regier 1, nw ne, 17-23-2e; Empire Oil & Ref. Co., Tangeman 1, sw ne ne, 19-22-1e.

NESS COUNTY—Barnsdall Oil Co., Lank 1, c sw, 35-18-21w.

PRATT COUNTY—O'Haver & Jones, Lunt 1, c sw nw, 15-28-14w.

RUSSELL COUNTY—Liggett et al, Burham 1, ne cor, 20-11-15w.

SEDGEWICK COUNTY—Bu Vi Bar Pet. Co. et al, Wright 3, sw ne se, 12-26-1w; Patton et al, Burham 1, se sw sw ne, 22-25-1e.

OKLAHOMA

CANADIAN COUNTY—Wirt Franklin Pet. Co. & I. T. I. O. Co., North Center 1, ne ne, 18-13n-10w.

CARTER COUNTY—Magnolia, Baird 1E, sw cor se se, 23-1s-3w; Humble O. & R. Co., J. D. Dixon 7, sw nw, 30-1s-3w. Magnolia, Chas. Johnson 1, se ne ne, 4-2s-3w; May Suitor 1, nw ne ne, 4-2s-3w.

CREEK COUNTY—Pontiac Oil Co., Fulson 11, ne sw sw, 13-17-10. Madden & Madden et al, Sellers 2, se sw, 13-15-9; Magnolia, Vida-Way 12, ne nw, 17-18n-7e; Gled Oil Co., Grayson 3, se nw ne, 24-19n-8e. Pure Oil Co., Sina Crow 3, cel ne ne, 5-18n-7e. Magnolia, Ben Vance 7, cwl sw ne, 7-18n-7e. Magnolia, Musselman 23, ne se nw ne, 8-18n-7e. J. E. Wallace, McComas 2, nw, 2-17-11.

GRADY COUNTY—Oklahoma Gas Utilities Corp., Sanford 5, ne sw, 23-5n-8w.

JEFFERSON COUNTY—Humble, Seay 1, nw ne, 3-7s-5w. Bridwell Oil Co., Trout 1, cel ne ne, 33-6s-6w. Roberson & Woods, O. W. Seay 1, sw se ne, 36-6n-6w.

KAY COUNTY—Wilson & Wright, Myer 2, c ne nw, 14-27n-1e.

KIOWA COUNTY—Alexander et al, Fuqua 3, se sw sw ne, 18-6n-16w.

LOGAN COUNTY — J. E. Crosbee et al, Shaffer 5, sw nw sw nw, 20-19n-4w. Shell Pet. Corp., Rouse "A" 2, nw sw 20-19n-4w.

OKLAHOMA COUNTY—I. T. I. O. Co., Bodine 1, e nw se, 24-11n-3w.

MARSHALL COUNTY—Ward Merrick, R. H. Null 1, ne nw nw, 24-5s-5e. Tompson et al, Blaylock 1, se sw, 3-6s-6e.

MUSKOGEE COUNTY—J. E. Dow et al, G. A. Fewell 1, sw se sw, 3-13n-16e.

OKFUSKEE COUNTY — Dixie Oil Co., Drew 2, sw cor, 8-13-10. Atlantic Oil Prod. Co., Robinson 3, nw sw, 12-10-11.

OKMULGEE COUNTY—Texas Co., F. B. Severs 10, csl se ne, 20-15n-14e. Blake & Kenney, A. E. Anderson 3A, sw nw ne, 2-15n-14e.

OSAGE COUNTY—Oklahoma Power & Water Co., No. 113, nw sw se, 30-21-10. Carter Oil Co., No. 3, se ne se, 33-26-6. Carter Oil Co., No. 2, nw ne se, 33-26-6; No. 1, se ne, 33-26-6. A. G. Oliphant, No. 1, nw sw se, 9-21-9. Clint Moore Estate et al, No. 21, ne sw sw sw, 9-21-9. W. S. McCray, No. 1, ne sw ne, 28-22-12. I. T. I. O. Co., No. 26, cw½ w½ ne, 26-22-10. L. G. Stanley No. 4, nw sw se, 36-22-8. Mid-Kansas O. & G. Co., No. 3, se ne sw, 36-22-8. Carter Oil Co., No. 2, sw nw sw, 34-26-6. Lewis et al, No. 2, ne se, 15-26-6. I. T. I. O. Co., No. 1, se ne sw, 16-28-8.

PONTOTOC COUNTY — Westheimer & Daube, Wade 9, nw se sw, 19-5n-8e. Independent Oil & Gas Co., Chism 1, se nw se, 20-5n-7e. La Salle, Bumpers 2, ne, 31-5n-5e.

POTTAWATOMIE COUNTY — Shaffer O. & R. Co., Tolon 4, se sw, 30-7n-5e. Pine, Smith 1, ne 8-8n-5e. Gypsy Oil Co., Miller 4, nw ne se, 18-8n-5e. Indepjendent O. & G. Co., Harding 4, se sw nw, 18-8n-5e. Marland Oil Co., & Shell Pet. Corp., Everette 1, ne nw sw, 18-8n-5e. Mid-Continent Pet. Corp., Shelton 1 sw se ne, 18-8n-5e. Pine, Linger 1, sw ne, 18-8n-5e. Pure Oil Co., Lindly 4, ne nw se, 18-8n-5e. Magnolia Pet. Co., J. M. Robbins 5, w se, 15-7n-4e. Sinclair O. & G. Co., Nesbit 1, ne se nw, 18-7n-5e. T. B. Slick, Wolfe 1, nw se, 18-7n-5e. Sinclair O. & G. Co., Lewis 3, sw nw sw, 6-8n-5e. Calvin 1, se sw, 7-8n-5e; Bellars 7, nw se ne, 19-8n-5e; Bellars 8, sw ne ne, 19-8n-5e.

SEMINOLE COUNTY—Barnsdall Oil Co., Coker 7, nw se sw, 11-8n-5e; Coker 6, sw ne sw, 11-8n-5e; Coker 5, nw ne sw, 11-8n-5e. Shaffer O. & R. Co., McCoy 3, ne sw sw, 30-10n-5e; Empire Oil & Ref. Co. & Marland Oil Co.. Anderson 2, se sw, 13-9n-5e; T. B. Slick & Skelly Oil Co., Campbell 8, nw ne nw, 6-9n-6e; Skelly Oil Co. & Atlantic Oil Prod. Co., Lottie 3, ne nw nw, 6-9n-6e; Barnsdall Oil Co., Coker 2, ne se sw, 11-8n-5e; Coker 3, ne sw, 11-8n-5e; Coker 4, se ne sw, 11-8n-5e; Empire O. & R. Co., Cluck 2, nw se, 11-8n-5e; Cluck 3, sw nw se, 11-8n-5e. Sinclair O. & G. Co., L. Harjo 2, nw sw se, 11-8n-5e; Bean 1, se ne nw, 11-8n-5e. Mid-Continent Pet. Corp., Eleck 2, se ne se, 23-7n-6e; Magnolia Pet. Co., Glass 1, sw ne ne, 26-7n-6e; Pure Oil Co., Brinson 3, se nw sw, 24-7n-6e; Mid-Continent Pet. Corp., Smith 3, sw nw ne, 5-7n-7e; Skelly Oil Co., Gross 2, se nw sw, 36-10n-5e; Gypsy Oil Co., Cookey 1, ne se, 14-9n-5e; L. Jones 1, sw se sw, 31-10-6e; Nevins 1, se nw se, 32-10n-6e; Iron Mountain Oil Co., Anderson 1, ne nw sw, 13-9n-5e; Anderson 2, se nw sw, 13-9n-5e; Independent O. & G. Co., Alexander 1, se sw sw, 31-10n-6e; T. B. Slick & W. B. Pine, Coker 2, sw, 1-7n-6e; C. L. McMahon et al, Harjo 2, nw se, 7-8n-6e; Barnsdall Oil Co., Coker 8, ne sw sw, 11-8n-5e.

STEPHENS COUNTY—Pace et al, Bush 3, sw ne ne nw, 3-2s-8w; E. J. Stump, Grigham 1, e nw nw, 32-2n-9w; Voe Wright, F. M. Gross 1, ne sw, 4-1n-9w; Pace et al, Smith 2, se sw sw se, 35-1s-8w.

TULSA COUNTY—West Petroleum Co., Unallotted No. 1-A, se sw se nw, 11-18-12.

LOUISIANA

ACADIA PARISH—Fred I. Getty, Jennings, Clement 1, 46-9s-2w, 465 ft n and 667 ft w of sec of Irregular Sec. 46. The Texas Co., Shreveport, Latrielle A-107, 47-9s-2w, 1690 ft s along w line from nw c of Sec. and 65 ft e at a rt. angle in Sec. 47.

BOSSIER PARISH—Arkansas Fuel Oil Co., Shreveport, T. A. Tidwell 1, 29-22n-11w, 330 ft w of nec se.

CADDO PARISH—Bayou State Oil Corp., Shreveport, Land 6, 22-22n-15w, 450 ft e and 200 ft n of swc sw ne. Lorraine Synd., Shreveport, J. H. Bryson D-1, 18-17n-16w, 275 ft e and 200 ft s of nwc s½ of Fractional Sec. 18.

CAMERON PARISH — The Texas Co., Shreveport, Calcasieu Lake A-3, 13s-9w, 9283 ft w and 3020 ft n of nec Sec. 1-14s19w, in T 13s-R 9w. The Texas Co., Shreveport, Calcasieu Lake B-4, T 12s R 9w, 1170 ft e and 410 ft n of se cor of Sec. 13-12s-10w, in T 12s, R 9w. Yount-Lee Oil Co., Beaumont, Texas, Perkins 1, 28-12s-10w, 2332 ft e and 660 ft n of swc.

LA SALLE PARISH — Hartanzo Oil Co., Alexandria, Urania Lbr. Co. 3, 7-10n-2e, 550 ft w and 150 ft n of center.

MOREHOUSE PARISH—Southern Carbon Co., Monroe, Fee 51, 15-20n-4e, 594 ft s and 2046 ft e of nw c.

OUACHITA PARISH—Magnolia Pet. Co., Shreveport, U. S. Government 1, 18-19n-5e, 660 ft n and 660 ft w of center.

TEXAS

ARCHER COUNTY—American Ref. Properties, Wichita Falls, Benson 1, 1808, TE&L sur, 1394 ft from w and 1250 ft from s line. G. R. Ridgeway, Wichita Falls, Crawford 9, H. Corzine sur, 200 ft from e and 800 ft from s line. Gilliland-Roeser, Wichita Falls, Symank 2, B 11, G. P. Meade sur, 650 ft from n and 450 ft from w line. Perkins & Cullum, Wichita Falls, Williams 1, J. Hand sur, 150 ft from s and 1350 ft from e line. Prairie O. & G. Co., Ranger, McLean 3, S 8, S. A. R. sur, 300 ft n of No. 1. Texas Co., Wichita Falls, Hill 23, 2408, TE&L sur, 300 ft w of No. 22. F. C. Grebin, Wichita Falls, Hennig 1, B 21, L. M. Meade sur, 150 ft from s and e lines. Reno Oil Co., Wichita Falls, Parrish 6, S 2, S. P. Ry. sur, 388 ft no of No. 3. T. Y. Pickett, Wichita Falls, Herron 1, 1831, TE&L sur, 450 ft from w and 150 ft from s line. C. W. Boller, Wichita Falls, F. C. S. L. 3, B 82, 300 ft n of No. 2. Consolidated Oil Co., Wichita Falls, Wright B1, 2435, TE&L sur, 702 ft from e and 930 ft from s line. H. L. Lewis, Wichita Falls, McCarty 1, R. Chisholm sur, 150 ft from n and w lines. Steed & Gans, Wichita Falls, Snider 9, R. Wilson sur, 150 ft from n and 1470 ft from w line; 10, same sur, 300 ft e of No. 9. L. V. Hull et al, Wichita Falls, Andrews 1, 1399, TE&L sur, 2016 ft from e and 100 ft from n line. Gulf Prod. Co., Fort Worth, Alexander 1, S 22, G. P. Meade sur, 150 ft w and 850 ft from s line.

ANDERSON COUNTY—Humble O. & R. Co., Houston, Mandelstam 4, N. K. Sessna sur, 1787 ft from w and 1130 ft from s line.

BROWN COUNTY—Gilman & McMurray, Cisco, Hickman 6, T. Benson sur, 350 ft from w and 450 ft from s line. Phillips Pet. Corp., Bartlesville, Okla., Hickman 19, No. 783, T. Benson sur, 1489 ft from n and 782 ft from e line.

BASTROP COUNTY—Sun Oil Co., Dallas, Yoast 1, L. C. Cunningham sur, 150 ft from nw line and 1650 ft from ne line.

BEXAR COUNTY—W. M. Morgan, San Antonio, Bridges 1, ne corner. Humble O. & R. Co., Houston, Oppenheimer 2, J. M. Urriegas sur, 300 ft n of No. 1.

BRAZORIA COUNTY—Empire G. & F. Co., Daisetta, Brock 2, J. E. Groce sur, north cent part of lease.

BREWSTER COUNTY—Brewster Oil Co., Boston, Mass., 1, S 45, B G15, GC&SF sur, 150 ft from w and 450 ft from s line.

CALLAHAN COUNTY—Moutray Oil Co., Abilene, Hickman 32, S 149, BBB& C sur, 100 ft s and 282 ft e of No. 24. Reiter-Foster Oil Corp., Tulsa, Okla., Hatchett 17, S 24, D&D Asy. sur, 645 ft from e and 676 ft from s line.

ANOTHER MANUFACTURER OF EQUIPMENT FOR THE OIL INDUSTRY THAT USES SKF BEARINGS

EMSCO DERRICK & EQUIPMENT CO.

Equipped with the highest priced bearing in the world

YOU MAY BUY A BEARING AS A BARGAIN BUT TRY AND GET A BARGAIN OUT OF USING IT

for

Nothing is apt to cost so much as a bearing that cost so little.

SKF Puts the Right Bearing in the Right Place

Shock-Proof! In the Most Gruelling Service, says EMSCO of SKF on Rotary Machine

WHEN it came to giving the oil industry as near fool-proof equipment as possible, EMSCO turned to SKF self-aligning roller bearings for the pinion shaft of its new type "D A" rotary machine. SKF were chosen not because they are the highest priced bearings in the world but because they would deliver service the lowest in cost per bearing hour.

Tests with other types of anti-friction bearings proved conclusively that only SKF self-aligning roller bearings would run smoothly and easily under the heaviest loads and shocks.... had ample radial and thrust capacity .... required no adjustments at any time.... and provided for any possible mis-alignment when this machine, with a 25½ inch opening in the rotary table, is out on the job

SKF INDUSTRIES, INC., 40 East 34th Street, New York, N. Y.

2197

SKF

Ball and Roller Bearings

Say you saw it in The OIL WEEKLY

Tevas Co., Wichita Falls, Clifford 35, 3153, TE&L sur, 993 ft from s and elines. Hatchett 14, S 29, D&D Asy. sur, 300 ft s of No. 13. Reiter-Foster Oil Corp., Woodson, Hatchett 4, S 24, D&D Asy. sur, 390 ft from e and 150 ft from s line. Texas Co., Wichita Falls, Hatchett 7, S 29, D&D Asy. sur, 290 ft e of No. 6; 9, same sur, 250 ft e of No. 5; 10, same sur, 290 ft e of No. 9. J. F. Mason, Fort Worth, Ogle 12M, 2974, TE&L sur, 242 ft ne of No. 10. Putnam Oil Co., Cisco, Rutherford 30, S 8, Bayland Asy. sur, nw corner. St. Mary's O. & G. Co., Moran, Pruitt 2B, 2278, TE&L sur, 300 ft e of No. 1. C. B. Holmes et al, Baird, Hatchett 1, S 2, S. Morris sur, 1050 ft from e and 150 ft from s line. W. R. Mack, Los Angeles, Calif., Griggs 1, S 122, BBB&C sur, 1350 ft from w and 450 ft from s line. C. O. Moore Oil Corp., St. Louis, Mo., Rudloff 12, B 53, C. C. S. L. sur, 450 ft from n and 950 ft from w line. O. H. Harwell et al, Abilene, Osborne 1, S 18, B 5, T&P sur, 750 ft from w and 150 ft from s line. J. G. Mitchell, San Antonio, Williams 4, 2298, TE&L sur, 200 ft from w and 900 ft from n line.

CALDWELL COUNTY—Gulf Prod. Co., Houston, Smith 8, A. Floyd sur, 403 ft nw of No. 1; Davis 3, A. Floyd sur, 150 ft from n and e lines. Humble O. & R. Co., Houston, Wm. Smith 3, A. Floyd sur, 150 ft from s and 450 ft from w line. Shell Pet. Corp., Luling, Malone 2, A. Floyd sur, 150 ft s of center of n line; 3, same sur, 150 ft from n and w lines.

CROCKETT COUNTY—Monchief, Donnelley & Young, Fort Worth, Todd 3, S, 55, B UV, GC&SF sur, center; Todd 2, S 53, same sur, center; Todd 1, S 35, B WX, GC&SF sur, center.

COOKE COUNTY—W. J. Green, Wichita Falls, Campbell 4, O. F. Leverette sur, 300 ft w of No. 1.

COLEMAN COUNTY—Herbert Oil Co. of Texas, Fort Worth, Weaver 1, B 9, A. Gable sur, 150 ft from s and e lines.

DUVAL COUNTY—Simms Oil Co., Dallas, Dinn 3, S 454, B 62, 660 ft from n and e lines. Onyx Oil Co., Houston, Krauter 3, S 250, B 20, Rosita Valley sur, 300 ft s of No. 1.

ERATH COUNTY—Culbertson Bros. Co., Fort Worth, Fulbright 1, W. H. Holland sur, 660 ft from n and w lines.

FORT BEND COUNTY—Humphreys Corp., West-Schenck 5, T. Hobermaker sur, 175 ft e of No. 4. Texas Co., Houston, Dippel 1B, S. Miller sur, 50 ft from s and e lines. Gulf Prod. Co., Houston, Moore 18, J. Frazier sur, 400 ft from w and 5600 ft from n line. Humphreys Corp., Houston, West-Schenck 3, T. Hobermaker sur, 300 ft from n and 100 ft from e line. Moody Corp., Houston, West-Schenck 4, T. Hobermaker sur, 615 ft from n and 197 ft from e line.

FALLS COUNTY—Pettus & Carruth, Chilton, Flowers 1, J. A. Manchaca sur, 210 ft from n and 870 ft from w line.

GRAY COUNTY—Southern Pet. Exploration Co., Pampa, McConnell 2, S 174, B 3, I&GN sur, 990 ft from w and 330 ft from s line. Marland Prod. Co., Ponca City, Okla., Finley 1, S 32, B B 32, H&GN sur, 330 ft from n and e lines.

GONZALES COUNTY—W. N. Brodie, San Antonio, Dix 1, I. Nash sur, 800 ft from w and 966 ft from s line.

GLASSCOCK COUNTY — California Co., Colorado, Settles 1, S 158, B 29, W&NW sur, 2310 ft from s and e lines. R. R. Penn, Dallas, Hughes 1, S 45, B 30, W&NW sur, center of e half.

HARDIN COUNTY — Unice & Carpenter, Houston, Coplin 2, Jackson sur. Rio Bravo Oil Co., Houston, Fee B105, S 132, BBB&C sur, south central part of lease.

HARRIS COUNTY—Sun Oil Co., Beaumont, Blaffer 45, D. Dunman sur, south of No. 44. Gulf Prod. Co., Houston, Taylor 27, J. Hamilton sur, 250 ft sw of No. 11. Gordon Lawson, Houston, Bailey 1, J. B. Jones sur, 15 ft from n and 312 ft from e line.

HOWARD COUNTY—Pure Oil Co., Fort Worth, Chalk 9, S 125, B 29, W&NW sur, 660 ft w of No. 7. Group I and Marland Prod. Co., Big Springs, Settles A7, S 158, B 29, W&NW sur, 330 ft from s and w lines; A8, same sur, 330 ft from n and e lines; A4, same sur, 990 ft from w and 330 ft from n line.

HUTCHINSON COUNTY—W. H. Holmes, Amarillo, Quinn 1, S 7, B 9, I&GN sur, 330 ft from s and e lines.

LIBERTY COUNTY—L. A. Painter, St. Louis, Mo., Turner 1, M. G. White sur, 800 ft e of center of e line. Sun Oil Co., Beaumont, Mitchell 24, M. G. White sur, 226 ft n of No. 21.

LAVACA COUNTY—Texas Co., Houston, Rusek 1, H. Martin sur, 150 ft from s and w lines.

MILAM COUNTY—Texas Pet. Dev. Co., Niehaus 14, T. J. Chambers sur, 300 ft s of No. 13.

REEVES COUNTY—L. O. White et al, Hershenson 1, S 5, B 51, T&P sur, 660 ft s of center of n line.

REFUGIO COUNTY — Houston Oil Co., Blanco River 1, No. 12717 permit.

SHACKLEFORD COUNTY—Union Oil & Mining Co., Tulsa, Okla., Huskey 33, 548, TE&L sur, 451 ft from w and 600 ft from s line. Ohio Texas Oil Co., Inc., Albany, Matthews 10, S 29, E.T. Ry. sur, nw corner. Roeser & Pendleton and Marland Prod. Co., Ponca City, Okla., Cook A33, S 61, E. T. RY. sur, 419 ft w of No. 32. Cook B9, S 61, E. T. Ry. sur, 410 ft w of No. 7. Less Combest et al, Mineral Wells, Alexander 8, S 15, L. A. L. sur, 1050 ft from w and 150 ft from s line. Alexander 1, S 6, L. A. L. sur, 150 ft from s and w lines. J. E. Lake et al, Dallas, English 1, 541, E&L sur, 150 ft from n and 593 ft from w line. A. D. Robinson, Dallas, Blach 1, 372, TE&L sur, 600 ft from nw and 200 ft from ne line. R. H. Frizzell et al, Albany, Cockrell 2, S 6, L.A.L. sur, 150 ft from s and w lines. Dull-Earls and Texas Co., Albany, Matthews 3, S 32, E. T. Ry. sur, 300 ft s of No. 2. Big State Oil Corp., Dallas, Jeeter 1, S 15, B 11, T& P, sur, 2490 ft from w and 150 ft from s line. Jas. Miller et al, Breckenridge, Whitney 1, 514, TE&L sur, 450 ft from n and 750 ft from e line. Ramsey & Decker, Breckenridge, Keathley 1, S 24, B 5, T&P sur, 1600 ft from e and 1100 ft from s line. Cook A32, S 61, E. T. Ry. sur, 415 ft no of No. 30. Cook A86, S 60, E. T. Ry. sur, 310 ft n of No. 83. Less Combest et al, Mineral Wells, Alexander 7, S 15, L. A. L. sur, 300 ft e of No. 6. L. C. Collins, Tulsa, Wall 1, S 13, Bayland Asy. sur, 660 ft from n and w lines.

STEPHENS COUNTY—Ramsey & Decker, Breckenridge, Keathley 1, S 24, B 5, T.&P. sur, 1600 ft from e and 1100 ft from s line.

THROCKMORTON COUNTY — Gilman & McMurray, Cisco, Frazee 2, 914, T.E.&L. usr, 939 ft from w and 1875 ft from s line.

UPTON COUNTY—Gulf Prod. Co., Fort Worth, McElroy 7, S 195, B F, C.C.S.D.&R.G. N.G. sur, 330 ft from s and w lines; McElroy 59, S 196, 330 ft from n and w lines. Humble O. & R. Co., Wichita Falls, Ricker 10, M. S. Denton sur, 1320 ft nw of No. 5.

UVALDE COUNTY — Pure Oil Co., Fort Worth, Smyth 2, S 687, G.C.&S.F. sur, south central.

WICHITA COUNTY—Staley-Wynne & Co., Wichita Falls, Kemp & Kempner 10, B 82, W. V. F. L. sur, 150 ft from n and w lines. Ryan Consolidated Pet. Corp., Bartlesville, Okla., Nance 105, S. O. Fowler sur, 300 ft s of No. 104; Nance 106, 400 ft w of No. 103. C. A. Everts, Wichita Falls, Dodson 2, W. H. Anderson sur, 600 ft from n and 150 ft from w line. C. J. Bohner, Burkburnett, Taylor 2, B 98, R. R. V. L. sur, ne corner. C. B. Bailey, Wichita Falls, Munger 29, W. V. F. L. sur, 300 ft s of No. 28. United Prod. Co., Wichita Falls, Hodges 6A, H.&T.B. sur, 150 ft from s and w lines; Hodges 7A, 150 ft from n and w lines. Bennett & Galley, Electra, Robinson 1, S 305, Waggoner Col. sur, 450 ft e and 150 ft from s line.

WILBARGER COUNTY—Baker & Camp, Wichita Falls, Waggoner D1, T. D. Purnell usr, 1165 ft from n and 150 ft from w line. Waggoner Ref. Co., Inc., Electra, Waggoner 12, S 30, B 4, H.&T.C. sur, 300 ft se of No. 11; Waggoner 3, S 31, B 4, H.&T.C. sur, 205 ft from s and e lines. Phillips Pet. Corp., Bartlesville, Okla., Waggoner 1, S 18, B 4, H.&T.C. sur, 195 ft from n and e lines; Anna 2, S 43, B 4, H&T.C. sur, 268 ft from s and e lines. E. B. Lawson, Atlas Life Bldg., Tulsa, Okla., Waggoner 1, S 129, B 4, H.&T.C. sur, 660 ft from n and 1120 ft from e line.

WEBB COUNTY—Deaven & Marts, Laredo, Johnson 2, S 602, B 11, 250 ft from n and 550 ft from w line. Foster & Barnsley, Laredo, Webster 15, 1, S 684, 510 ft from n and 150 ft from e line. Barnsley, Scharf & Kirk, Laredo, De la Garza 2, S 335, B 21, 200 ft from n and 150 ft from e line. Magnolia Pet. Co., Dallas, Benavides 1, S 697, B.S.&F. sur, 150 ft from n and e lines.

WINKLER COUNTY—Prairie O. & G. Co., Ranger, Cowden 5, S 9, B B12, P.S.L. sur, 330 ft from e and 1320 ft from s line.

WHARTON COUNTY — Gulf Prod. Co., Houston, Chase 17, S. F. Austin sur, 400 ft nw of No. 15.

YOUNG COUNTY—Prairie O. & G. Co., Ranger, Kunkel 5, S 4, L. Pankomin sur. R. R. Rhodes, Graham, Eichelberger 1, 1470, T.E.&L. sur, 1056 ft from e and 872 ft from n line. A. Hurst, Royce City, Drum 1, J. W. Paddock sur, 225 ft from n and 450 ft from w line. Senior Oil Co. & Riggs & Oliphant, Graham, Sweet 9, 1488, T.E.&L. sur, 450 ft from n and 2300 ft from e line. Paull Oil Co., Graham, Allen 6, N. Lynch sur, 200 ft from n and w lines; Thompson 4, 2692, T.E.&L. sur, 200 ft from s and e lines. Prairie O. & G. Co., Ranger, Bullington 5, 1370, T.E.&L. sur, 1200 ft from n and 1800 ft from e line.

CALIFORNIA

CAT CANYON — Palmer Union Oil Co., Stendel 15, 30-9-32. Winnann Oil Co. No. 3, 30-9-32.

HUNTINGTON BEACH—Rex Oil Co., No. 10, 2-6-11.

KERN COUNTY—Superior Oil Co., Glide 1, 19-26-28. Clark-Kel Oil Corp., No. 1, 19-27-29.

LONG BEACH—Congress Pet. Corp., No. 1, 19-4-12. D. M. F. Oil Co., No. 1, 24-4-13. Shell Co., Goddard 8, 29-4-12. Otis Hoyt. No. 1, 19-4-12; No. 2, 19-4-12.

LOS ANGELES COUNTY — Richfield Oil Co., Vernon 1, 13-2-13.

MIDWAY—Standard Oil Co., No. 47, 9-32-24.

MT. POSO—Petroleum Securities Co., No. 8, 21-27-28. Signal Oil & Gas Co., Fitzhugh 1, 14-27-27. Shell Co., Security 1, 16-27-28.

POTRERO—Ring Exploration Co., Simons 1-A, 28-2-14.

SANTA FE SPRINGS — George F. Getty, Inc., S. F. S. 28, 6-3-11. Star Pet. Co., Star 4, 6-3-11. General Pet. Corp., Santa Fe 145-C, 5-3-11.

SANTA BARBARA COUNTY — Bankline Oil Co., Duncan Ranch 1, (-)-4-27.

SEAL BEACH—Marland Oil Co., Bixby 26, 11-5-12; Bixby 27, 11-5-12. Standard Oil Co., San Gabriel 19, 3-5-12.

SUNSET—Signal Oil and Gas Co., No. 2, 8-11-23.

VENTURA—Associated Oil Co., McGonigle 5, 23-3-23. Pacific Western Oil Co., S. P. Willett 2, 28-3-23. Associated Oil Co., Hartman 19, 22-3-23.

VENTURA COUNTY—Triunfo Oil Co., No. 1, 24-1-19.

Continental May Build Black Oil Refinery

Casper, Wyo.—It is believed that the recent trade effected by the Union Oil Company of California and the Continental Oil Company whereby the latter took over the Rocky Mountain properties of the former may mean the erection of a refinery for black oil at Riverton or Shoshoni, Wyoming, to handle the crude output of the Maverick Springs field where there is a daily production of about 10,000 barrels of black oil, shut in. This would necessitate the construction of a pipe line from the field to railhead. Union Oil Company had a tank farm site near Shoshoni and it is believed that at one time it had plans for the erection of a refinery there. This location would be advantageous inasmuch as it would provide railroad facilities on both the Burlington and the Chicago & Northwestern.

The Right Tool

for an

Important Job

You have to hand it to the man or the tool that can complete a job, and do it right the first time. Any tong can screw up pipe, but it is the tool that completes the job that counts.

A joint isn't made until it is tight; and it is on the last half turn that TRANSIT Red-Head Tongs show up especially well.

To have the job done right—specify

TRANSIT RED HEAD TONGS

Bulletin 5-F "Tools for Pipe Line Construction" on request.

Representatives
FRICK-REID SUPPLY CORPORATION
Tulsa, Okla., or any store.
REPUBLIC SUPPLY COMPANY
of California
Los Angeles, California.
E. L. WILSON HARDWARE CO.
Beaumont, Texas.

NATIONAL TRANSIT
Pump & Machine Co.
Oil City, Pa.

DISTRICT OFFICES
NEW YORK PHILADELPHIA PITTSBURGH
CLEVELAND HOUSTON TULSA LOS ANGELES

Representatives
THE GLOBE SUPPLY & MACHINERY CO.
New Orleans, La.
F. C. RICHMOND MACHINERY CO.
Salt Lake City, Utah.
MORTON McI. DUKEHART & CO.
Baltimore, Md.
REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

Say you saw it in The OIL WEEKLY

WILDCATS FROM ALL SECTIONS

WEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BORDEN COUNTY—		
E. L. Doheny et al, Koonsman 1 ..	*	3791
IRION COUNTY—		
Mertzen Oil Co., Roach 1.....	*	2202
MITCHELL COUNTY—		
Hucony Gas Co., Weichsel 1.....	*	4002
SCURRY COUNTY—		
Landreth Prod. Corp., Hillmer 1....	*	4290

ANDREWS COUNTY—Deep Rock Oil Co.'s Hostetter 1, sd 1450 ft. Mid-Continent Pet. Corp.'s Fisher 1, lcn.

BORDEN COUNTY—Condor Pet. Co.'s Hall 1, elev 2601 ft, top salt 1235 ft, top lime 2969 ft, sd hfw 3555 ft. Greene O. & R. Co.'s Slaughter 1, dk.

BREWSTER COUNTY—Ed. W. Bateman & Co.'s Neville Ranch 1, elev 3950 ft, fsh 1070 ft. Brewster Oil Co.'s Fee 1, machine. C. Williams et al's Poncey 1, sd 500 ft.

COKE COUNTY—Gates & Dennis' Mims 1, sd 1465 ft. Lipan Oil Co.'s Rawlings 1, sd 2840 ft. Louisiana Oil Ref. Corp.'s Powers 1, elev 2040 ft, dr 3420 ft. Mid-Kansas O. & G. Co.'s Lackey 1, ur cas 2765 ft.

CONCHO COUNTY—Lloyd Jones et al's Jones 1, sd 660 ft. Exploration Co.'s Hartgrove 2, machine.

CRANE COUNTY—C. C. Duffey et al's Cowden 4, dk. Gulf Prod. Co.'s Waddell 6, spudding.

CROCKETT COUNTY—Barbara Oil Co.'s Cox 1, elev 2051 ft, top lime 1082 ft, sd hfw 1290 ft. W. W. Donnelly et al's Shannon 1, (Sec. 9) elev 2486 ft, sd 1719 ft. Donnelly-W. A. Moncrief et al's Todd 1, (Sec. 35) spd and sd. J. D. Wheeler et al's State Fee 1, sd 410 ft. Ed. G. Lewis-W. T. Daniels et al's River Bed 1, spd and sd. F. P. Zoch-Moncrief et al's tippett 1, dr 605 ft.

CULBERSON COUNTY—Deep Rock Oil Co. et al's Seay 2, sd 1010 ft. J. H. Hickey et al's Finley 1, sd 1660 ft. Scott-Dittman's Miller 1, sd 1765 ft. West Texas Oil & Exploration Co.'s McGregor 1, sd 385 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, sd 3300 ft.

DAWSON COUNTY—Magnolia Pet. Co.'s Jeter 1, elev 2889 ft, top salt 1640 ft, top lime 3560 ft, dr 3615 ft.

EDWARDS COUNTY—Gale Oil Co.'s Jernigan 1, sd hfw 4010 ft. McMan O. & G. Co.'s Schreiner 1, fsh cas 3995 ft.

EL PASO COUNTY—C. E. Sillix et al's Malone 1, sd 1010 ft.

FISHER COUNTY—Bickerstaff et al's McWhirter 1, sd 1875 ft. Cranfill-Reynolds & Sun Oil Co.'s Brown 1, spudding. J. B. Dunigan et al's Henry 1, sd 1250 ft. Hucony Gas Co.'s Marberry 1, elev 1876 ft, sd 2840 ft. Rainey et al's Marberry 2, sd 3507 ft. I. E. Thompson et al's Newman 1, dr 1380 ft.

GAINES COUNTY—Pure Oil Co.'s Williamson 1, dr 1950 ft.

GARZA COUNTY—Emerald Oil Co.'s Boren 3, pumping water, td 4801 ft.

GLASSCOCK COUNTY—Chas. Daniels et al's Meek 1, dk. Gibson-Johnson et al's Mang 1, dr 390 ft. Meriwether Oil Co.'s McDowell 2, elev2517 ft, top salt 970 ft, dr 1730 ft. Bob Penn et al's Hughes 1, dr 380 ft. White Eagle O. & R. Co.'s Dunbar 1, spd and sd. World Oil Co.'s McDowell 1-C, elev 2530 ft, rig.

HOWARD COUNTY—Andrews et al's Neal 1, elev 2731 ft, top salt 2015 ft, top lime 3150 ft, sd 3415 ft. Greene O. & R. Co.'s Furrh 1, elev 2277 ft, top salt 1255 ft, top lime 2097 ft, sd 3000 ft. Group One Oil Corp.'s (Texon) Quinn 1, elev 2499 ft, top salt 1070 ft, top lime 3103 ft, sulphur water 3250 ft, dr 3730 ft. Phillips Pet. Co.'s Thomas 1, elev 2591 ft, top salt 1170 ft, top lime 3030 ft, sd 3275 ft.

HUDSPETH COUNTY—The California Co.'s University 1, elev 5833 ft, bad hole 260 ft. Western States Oil Co.'s Gardner-Moseley 1, sd 3125 ft; S. W. Moore 1, sd 2750 ft.

IRION COUNTY— Furhman Pet. Corp.'s Sugg 1, 2 and 3, lcns. Kimbrough et al's Nutt 1, sd 1420 ft. Kimbrough & Flinchbaugh's Tankersley 1, spd and sd. Kingwood Oil Co.'s J. D. Sugg 1, elev 2334 ft, cased off oil pay, sd 3675 ft. Mertzon Oil Co.'s Roach 1, elev 2404 ft, dry and abn 2202 ft. Signal Oil Co.'s Sugg 1, elev 2415 ft, top salt 705 ft, sd 3155 ft. Webb et al's Nutt 1, co 2510 ft.

JONES COUNTY—Atkinson & Sandefer's Hudspeth 1, elev 1811 ft, top lime 2563 ft, testing pay at 2578-85 ft. E. P. Campbell et al's Herndon 2, rig. McNeeley et al's Bland 1, spd and sd. Mid-Sun Oil Corp.'s Hoehn 1, sd 1100 ft. Milt Richardson et al's Martin 1, sd 900 ft. Roeser-Pendleton et al's Castle 1, rig. Sedwick O. & G. Co.'s Routh 1, rig. Tomberlin et al's Horn 1, spd and sd. Woods & Williams' Parr 1 ur cas 2310 ft.

LOVING COUNTY—Lockhart & Co. et al's H. L. Lepp 1, lcn.

LYNN COUNTY—Geo. B. McCamey et al's Edwards 1, spd and sd. H. F. Miller et al's W. H. May 1, spd and sd.

MIDLAND COUNTY—O. H. Shoup et al's Parks 1, elev 2871 ft, top salt 1740 ft, sd 4980 ft.

MITCHELL COUNTY—E. P. Campbell et al's Pond 1, dr 1675 ft. Simms Oil Co.'s Elwood 1, lcn. Teas & Wheeler's Radford 1 elev 2223 ft, top lime 1365 ft, dr 3110 ft.

NOLAN COUNTY—T. G. Bradstreet et al's Kuteman 1, rig. Herbert Oil Co.'s Pepper 1, elev 2242 ft, sd 3645 ft. C. M. Root Drilling Co.'s Simpson 1, dr 710 ft. White Eagle O. & R. Co.'s Allyn 1, dr 2080 ft.

PECOS COUNTY—Alexander-Lyles et al's Sellman 1, elev 2672 ft, top salt 814 ft, top lime 1602 ft, sd hfw and show gas and oil, td 1655 ft. Geo. H. Anderson et al's University 1, elev 2801 ft, top salt 1030 ft, top lime 1715 ft or 1760 ft, re-run 5-inch cas to test production, td 1961 ft. Atlantic Oil Prod. Co.'s Sellman-Baker 1, sr 800 ft. Benedum-Trees et al's Corder 1-A, top salt 1840 ft, dr 2580 ft. M. Z. Dibble et al's Bonebrake 1, elev 2555 ft, top salt 1874 ft, sd 2004 ft. McCarty Oil Co.'s Bennett 1, dr 1395 ft. Mauch & Krogen's Holmes 1, elev 2352 ft, top salt 525 ft, sd 1010 ft. Pecos Valley Oil Co.'s Fee 2, lcn. Phillips Pet. Co.'s J. L. Nutt 2, rig. Schumaker et al's Williams 1, sd 330 ft. Southern Crude Oil Pur. Co.'s Scharbauer 1, elev 2680 ft, fsh 3380 ft. Stein & McGee et al's Louis Peterson 1, lcn. Talbot & Dittman's Unsicker 1, dr 680 ft. Transcontinental Oil Co.'s University 1, elev 2552 ft, top lime 1035 ft, fsh 4128 ft. Trees Oil Co.'s J. C. Trees 1, lcn. World Oil Co.'s Kloh 1, elev 2810 ft, sd 3105 ft. Yates Ranch Oil Co.'s Yates 1, elev 2201 ft, top salt 520 ft, dr 1230 ft.

PRESIDIO COUNTY—L. C. Brite Prod. Co.'s Brite 1, sd 4152 ft. Eastland Oil Co. et al's Tootle 1, spd and sd. Delman-Empire-Phillips Pet. Co.'s Tootle 1, sd 950 ft.

REAGAN COUNTY—The California Co.'s University 5, rig.

REEVES COUNTY—E. W. Brooks et al's Eddins 1, elev 2719 ft, top salt 1622 ft, top gray lime 3216 ft, sd 5658 ft. D. P. Davis et al's Kinney 1, spd and sd. Exploration Co.'s Kinney 1, elev 2847 ft, sd 2990 ft. Dr. Kitsos et al's Kloh 1, elev 2786 ft, sd 890 ft. Bob Penn et al's Bowles 1, rig. Lee O. White et al's Kloh 1, rig.

RUNNELS COUNTY—G. W. Boyce et al's Lange 1, spd and sd. Gene Mays et al's (was Foster) Currie 1, materials. Ira Nourse & Tilton's Cramer 1, dr 1530 ft. Union Oil Co.'s Allen 1, dr 1875 ft. Vacuum Oil Co.'s Brevard 1, dr 1825 ft.

SCHLEICHER COUNTY—Ft. McKavitt Oil Co.'s Tisdale 1, sd 230 ft. Interstate Prod. Co.'s Whitten 1, dk.

SCURRY COUNTY—J. B. Mims et al's Koonsman 1, spd and sd. R. B. Pender O. & G. Co.'s Davis 1, elev 2208 ft, top salt 445 ft, sd 1040 ft.

STERLING COUNTY—Foster & Gracey Oil Co.'s Foster 1, elev 2260 ft, sd hfw 1658 ft.

STONEWALL COUNTY—Sun Oil Co.'s Rayner 1, elev 1818 ft, top lime 1500 ft, ur 3470 ft.

SUTTON COUNTY—Phillips Pet. Co.'s Cawthon 1, rig; Holman 1, fsh 5775 ft. Southern Crude Oil Pur. Co.'s Allison 1, dk.

TAYLOR COUNTY—Burnham et al's Amyx 1, sd 1640 ft. Grisham-Hunter Corp.'s Campbell 1, dk. Hurley Oil Co.'s Payne 1, top lime 2473 ft, sd 2762 ft. Mid-Kansas O. & G. Co.'s Parramore 1, ur cas 2057 ft. Mid-Continent Pet. Corp.'s Taylor 1, dr 850 ft.

TERRELL COUNTY—Big Bend Oil Co.'s Bassett 1, spd and sd. Mrs. J. B. McPhee et al's Belt 1, spd and sd. Milham Corp.'s Bassett 1, elev 2270 ft, sd 4430 ft. Keck-Pecos Oil Trust's Hamilton 1, sd 1749 ft.

TERRY COUNTY—Superior Oil Prod. Co.'s Brownfield 1, elev 3205 ft, top lime 4565 ft, sd 4775 ft.

VAL VERDE COUNTY—Dyer Bros. et al's W. E. Wilson 1, sd 2160 ft. Producers Oil Co. et al's Everett 1, dr 1570 ft. Val Vert Oil Corp.'s Bassett 1-A, dr shale 2005 ft.

WARD COUNTY—E. B. Lovelace et al's Redman 1, spd and sd. Prairie O. & G. Co.'s Sealy 1, elev 2666 ft, top salt 1073 ft, top lime 3110 ft, sd hfw 3505 ft. Rector Oil Co.'s Johnson 1, elev 2438 ft, top salt 745 ft, top lime 2010 ft, sr 2501 ft. J. E. Shipley et al's Hayzlett 1, elev 2503 ft, top salt 727 ft, flowing 105 bbls oil daily 2481 ft. Talbot-Dittman et al's C. C. Dorr 1, elev 2430 ft, top salt 745 ft, dr 2130 ft.

WINKLER COUNTY—Amerada Pet. Corp.'s Daugherty 2, elev 2891 ft, top lime 2654 ft, dr 3090 ft; Daugherty 3, fsh 2615 ft. Barnsdall Oil Co.'s Morton 1, elev 2730 ft, top lime 2870 ft, fsh and showing sulphur water 3128-29 ft; Morton 2, sd 1095 ft, Morton 3, rig. Empire G. & F. Co.'s Daugherty 2, elev 2889 ft, top lime 2690 ft, making 15 million ft gas 3090 ft, dr 3105 ft; Daugherty 3, elev 2885 ft, top lime 2774 ft, rig burned 2846 ft; Daugherty 1-B, elev 2909 ft, top lime 2821 ft, cem cas 2830 ft. Gulf Prod. Co.'s G. W. O'Brien 2, top salt 2077 ft, set cas 2798 ft; O'Brien 3, top salt 2420 ft, top lime 2700 ft, cem cas 2780 ft. Magnolia Pet. Co.'s Scarborough 1, elev 2953 ft, top salt 1122 ft, top lime 2770 ft, swabbed 35 bbls oil, dr 2887 ft. Marland Prod. Co.'s Morton 1, fsh 2830 ft; Morton 2, rig. Prairie O. & G. Co.'s Daugherty 1, elev 2885 ft, top lime 2707 ft, dr 2750 ft; Daugherty 2, dr 2645 ft; Morton 1, top salt 1540 ft, cem cas and stdz 2748 ft. Shell Pet. Corp. & Danciger O. & R. Co.'s Daugherty 1, cem cas on lime 2689 ft; Daugherty 2, elev 2903 ft, top lime 2742 ft, dr 2855 ft. Simms Oil Co. and Southwest Oil Prod. Co.'s Sealy 1, top salt 2070 ft, dr 2315 ft. Texas-Canadian Oil Co.'s Kloh 1, lcn. Warner-Quinlan Co.'s Daugherty et al 1, dr 2545 ft. Wentz et al's Morton 1, elev 2729 ft, top salt 1706 ft, top lime 2672 ft, oil pay 2745-60 and 2842-43 ft, dr hfo 3003 ft.

YOAKUM COUNTY — Bert Weekly Oil Corp. et al's R. L. Knight 1, dk.

SOUTHWEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BASTROP COUNTY—		
Cranfill & Reynolds, Yost 3, Cedar Creek	50	1418
Yost 4, Cedar Creek	75	1467

BASTROP COUNTY—Sun Oil Co.'s Yost 1, Cedar Creek, spudded. The Texas Co.'s Yost 1, Cedar Creek, dr 1235 ft shale. Gypsy Prod. Co.'s Lottman 1, e of Bastrop, sd 2145 ft.

BLANCO COUNTY — Robt. A. Rodson's McDonald 1, sd 965 ft.

DUVAL COUNTY—Sun's Norton 2, Schoolfield O'Byrne field, ru; Davis 1, lcn. R. Driscoll's Fee 13, dr 2120 ft. O. Henry Oil Co.'s Henry 1, blk 1879, Snodgrass sub div., dr 400 ft shale

EDWARDS COUNTY — McMan Oil Co.'s Schreiner 1, ne part of county, dr 3880 ft sand. Seagle Oil Co.'s Neal 1, 3 mi nw Barksdale, dr 3240 ft lime.

GUADALUPE COUNTY—Magnolia's Adams 1, e Seguin, dr 2665 ft chalk.

GONZALES COUNTY — The Texas Co.'s Bateman 3, A. Zumwald sur, dk. Cranfill & Reynolds' Webb 1, Ottine area, dk.

HIDALGO COUNTY—Queen City O. & G. Co.'s Amer. Land & Irrig. Co. 2, 3 mi n Mercedes, sd 700 ft.

JIM HOGG COUNTY—T. J. Conway's Palacios 1, td 2010 ft.

JIM WELLS COUNTY—Cushing Oil Co.'s Perez 2, 3 mi n Alice, sd 2700 ft.

a BIG Mud Pump— FOR FAST DRILLING

The massive and rugged 14½x7¼x20-inch pump is proving eminently satisfactory for fast drilling on big, deep holes. Gives unequalled fluid volume at 1500 pounds working pressure.

Bulletins will gladly be sent upon request.

GARDNER-DENVER COMPANY
QUINCY, ILL.

BRANCHES IN OIL FIELDS

Dallas, Denver, Houston, Los Angeles, San Francisco, Tulsa, New York, Chicago, Philadelphia, London, England

OIL COUNTRY DISTRIBUTORS

Atlas Supply Company, Muskogee, Tulsa and Fort Worth

C. F. Camp Co., Tulsa

Emsco Derrick & Equipment Co., 6811 So. Alameda St., Los Angeles

Haywood-Williamson, Shreveport and El Dorado

International Supply Co., Stores in all Principal Mid-Continent Fields

Norvell-Wilder Hdwe. Co., Beaumont, Houston and Fort Worth

The Republic Supply Co. of California, Stores in all Principal California Oil Fields

GARDNER-DENVER

Say you saw it in The OIL WEEKLY

KINNEY COUNTY—Stephens et al's Clamp 1, sd 1800 ft.

MAVERICK COUNTY—Rycade Oil Corp.'s Sullivan 3, se Eagle Pass, dr 4695 ft; Chittim 2, se Eagle Pass, td 7635 ft; Chittim 3, se Eagle Pass, ru. Ryan Consolidated Pet. Corp.'s Indio Co. 2, 24 mi se Eagle Pass, td 1175 ft.

NUECES COUNTY — Maddox-Horn-Davis' Ragland 1, Aqua Dulce, sd 400 ft. Sigmond et al's Allan 1, td 2850 ft. Rosenblum & Grimm's Alban 1, Aqua Dulce, sd 2830 ft.

SAN PATRICIO COUNTY—LaPrelle et al's White Point 1, td 3130 ft. Pickett et al's Whitworth 1, White Point, sd 3250 ft. Leach et al's Whitworth 1, White Point, sd 3250 ft. Leach et al's Collins 1, Mathis, td 2450 ft.

STARR COUNTY—The Texas Co.'s Resendez 1, dr 3000 ft.

WEBB COUNTY—Baku Oil Co.'s Bruni 1, blk 7, sur 735, sd 2510 ft. G. S. Lumpkin's H. Yeager 1, blk 17, Fansler subdiv., porcion 33-34-35, lcn.

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
FORT BEND COUNTY—		
Gulf, E. C. Farmer 2, Boling.....	*	3850
VICTORIA COUNTY—		
Humble, Roos 1, 1½ mi se Nursery	*	700

AUSTIN COUNTY—Humble's Hardy 2, Raccoon Bend, set csg at 180 ft; A. Grawunder C-1, Raccoon Bend, dr 1843 ft hard lime and shale; Beal 1, Raccoon Bend, dr 3558 ft sandy shale; Bracey B-1, Raccoon Bend, completed for 1200 bbls at 3357 ft; Walton 2, Raccoon Bend, dr 2221 ft shale; Urban 2, Raccoon Bend, pumping mud into crater; Urban 3, Raccoon Bend, sd 198 ft; J. W. Wilson 1, Raccoon Bend, ru; E. Kearns 2, Raccoon Bend, lcn; E. B. Wilson 2, Raccoon Bend, dr 113 ft sand; H. D. Brown's Brazos River 1, lcn.

BRAZORIA COUNTY — Shell Pet. Corp's Allen 5, Allen Dome, dr 4041 ft shale; Reese 3, Allen Dome, sdtrk 2230 ft. Myers et al's Davidson 1, Clemens Dome, sd 1050 ft. F. A. Bartlett's Dannenbaum 8, Stratton Ridge, sd 3145 ft.

CALHOUN COUNTY—Baker & Thompson's Thomas 1, 9 mi w Pt. Lavaca, dr 2340 ft gbo.

CHAMBERS COUNTY—Pure Oil Co.'s Lost River 2, Lost Lake, pulling screen to deepen from 3623 ft after bailing salt water and little oil; Lost Lake 2, Lost Lake, dr 1415 ft lime. Gulf's Wilborn 1, Anahuac, dr 2400 ft sand. Mills Bennett Prod. Co.'s Kirby 2, Barbers Hill, dr 5020 ft sticky shale; Smith 2, Barbers Hill, ru. Humphreys Corp.'s Kirby C-1, Barbers Hill, dr 4995 ft shale and lime; Kirby B-6, Barbers Hill, dr 4035 ft shale and lime.

COLORADO COUNTY — Rich Oil Corp.'s Brun 1, 3 mi ne Columbus, sd 1215 ft.

FAYETTE COUNTY—Phalen et al's Cervanca 1, 6 mi s La Grange, dr 2740 ft shale. Moore et al's Kerr 1, Muldoon, sd 2078 ft.

FORT BEND COUNTY—Sun Oil Co.'s E. C. Farmer 4, Boling, dr 2700 ft shale; Kasparek 4, Boling, dr 3930 ft shale. Gulf's E. C. Farmer 2, Boling, abn at 3850 ft. Fort Bend Oil Co.'s Moore 1, Orchard, dr 3675 ft sand. Boling Dome Oil Corp.'s Armstrong 1, Boling, dr 2896 ft hard sand. Humble's Dew 1, Sugarland, dr 4591 ft; Sugarland Industries 4, Sugarland, waiting for cement to set, td 3465 ft; Deathridge 1, Sugarland, sd 3814 ft; Deathridge 2, Sugarland, ru; Nelson 1, Sugarland, ru; Camp 2, Sugarland, drk. J. H. Diehl's Armstrong 1, 2 mi e Boling, sd 500 ft. South Texas Explo. Co.'s Hartfield 1, Needville, dr 4300 ft gbo.

GALVESTON COUNTY—Long et al's Irvin & Bishop 1, 2 mi s Dickinson, sd 4322 ft. Republic Prod. Co.'s Lobit 1, 1 mi nw Dickinson, dr 3730 ft shale.

GOLIAD COUNTY—Alexander et al's Townsite, spudded. Southern Crude's J. L. Pettus 1, 10 mi nw Goliad, dr 2975 ft gbo.

HARDIN COUNTY—Chappel Hill Oil Co.'s Hale 1, 5 mi nw Sour Lake, sd 1810 ft. Guedry Drlg. Co.'s Guedry 1, 3 mi s Batson, drk.

HARRIS COUNTY—Torsen et al's Stewart 1, 4 mi sw Genoa, sd 691 ft. Hunt et al's Lobit 1, 4 mi n Goose Creek, sd 2145 ft. Humble's Warren 5, Hockley, dr 715 ft gbo; Minnetex 1, Mykawa, r at 4500 ft, td 4976 ft; Simms-Smith 74, Humble, dr 6187 ft sticky shale. Paxton et al's Brubaker 1, 1 mi ne Clodine, dr 720 ft gbo. J. A. Shine et al's Kitsman 1, 2 mi n Cypress, td 2910 ft. Brains et al's Lentze 1, 4 mi s Tom Ball, sd 1120 ft.

JASPER COUNTY—Great Lakes Oil Co.'s Boykin 3, 3 mi ne Rockland, drk. Tar Well Oil Co.'s Mills 1, 3 mi ne Rockland, td 1763 ft. L. A. Painter's Boykin 1, 3 mi ne Rockland td 1000 ft.

JACKSON COUNTY—The Texas Co.'s Moore 1, Edna, dr 2860 ft shale. Wright Bros.' Classen 2, Edna, dr 3260 ft gbo. Douglas & Lawrence 1, Edna, sd 3020 ft.

JEFFERSON COUNTY — Deep Test Oil Corp.'s Faith McFaddin 1, 6000 ft e Spindle Top, dr 3300 ft gbo. So. Spindle To. O. & Dev. Co.'s Young 1, 1 mi w Nederland, sd 3425 ft. Beaumont Oil Co.'s Tyrrell 1, 2 mi w Brooks, drk. Westbury Synd's West 1, 1 mi ne Westbury, dr 2368 ft gbo. Gulf's Burrell et al 2, Fannette, dr 5470 ft sand. River Oil Co.'s Ship Channel Land Co. 1, 2 mi se Beaumont, td 632 ft. Bleakie Oil Co.'s Tollivar 1, 2 mi northeast Westbury, ru. The Texas Co.'s Pipkin & Davis 1, Big Hill, dr 2820 ft shale.

LAVACA COUNTY—The Texas Co.'s Russick 1, 6 mi s Ezell, ru.

LIBERTY COUNTY—Barlow et al's Hinchcliff 1, 2½ mi ne Cleveland, sd 2215 ft. Kouri et al's Campbell 1, 6 mi s Cleveland, sd 2000 ft. Big Dome Interests' Finley 2, 3 mi nw Hardin, drk. The Texas Co.'s Davis 1, Davis Hill, dr 4640 ft sand. Humble's Sterling 3, Moss Bluff, r 6⅛-in hole to 2925 ft. Sun Oil Co.'s Koveleika 1, N. Dayton, dr 3365 ft gbo. Union Explo. Co.'s Esperson 1, 5 mi s Dayton, dr 5000 ft rock.

MATAGORDA COUNTY—Rycade's Hudson-Humble 4, Markham, ru. Crossland et al's Hawkins 1, Shepherds Mott, dr 2238 ft shale. Dr. P. S. Griffith's Culver 1, e Citrus Grove, sd 3215 ft. Baer 1, 1½ mi n Gulf Hill, sd 1900 ft.

ORANGE COUNTY—Veteran Oil Co.'s Reed 1, 2 mi se Orange field, td 2072 ft.

VICTORIA COUNTY — Houston Oil Co.'s Kyle 2, ½ mi e Nursery, sd 725 ft. Humble's Roos 1, 1½ mi se Nursery, abn at 700 ft.

WASHINGTON COUNTY — Sun Oil Co.'s Mrs. J. Grote 1, Clay Creek, drk; F. Grote 1, Clay Creek, discovery well, plugged back to 1357 ft, made 307 bbls in 12 hrs, flowing by heads; Marcus 1, Clay Creek, dr 2725 ft sandy shale; Einman 1, Clay Creek, waiting on cement to set at 2598 ft; Schirmer 2, Clay Creek, lcn; H. Witt 1, Clay Creek, spudded. Davis et al's Seward 1, ½ mi n Independence, dr 1025 ft shale.

SOUTH LOUISIANA

ACADIA PARISH—E. F. Simms' Clement 1, Jennings, sd 3872 ft; Clement 2, Jennings, sd 3840 ft; Grace Von Schueler 1, Jennings, dr 4180 ft sandy shale; Jennings Oil Co. 1, Jennings, sd 3545 ft; Cockrell 1, Jennings, sd 4330 ft.

ASCENSION PARISH—Gulf's United Lands Co. 11, Sorrento, drk; United Lands Co. 13, Sorrento, ru. Triumph Oil Corp.'s J. D. Lacey et al 2, 1½ mi se Sorrento, sd 1100 ft. Burnside Oil Co.'s Roberts 1, td 785 ft. Big Dome Drlg. & Dev. Co. and J. S. Kimbrough's Rearwood 1, dr 685 ft sand and gravel. Baton Rouge Pet. Co.'s Liotta 1, sd 1000 ft.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 729, Sulphur, drk; Fee 733, Sulphur, dr 5681 ft sand; Fee 735, Sulphur, prep to deepen from 4275 ft; Fee 736, Sulphur, ru; Fee 737, Sulphur, dr sand at 2870 ft; Fee 738, Sulphur, sd 1945 ft; Fee 739, Sulphur, ru; Fee 740, Sulphur, dr 2205 ft gbo. J. W. Watson et al's La. Land Co. 1, Sulphur, dr 4925 ft gbo.

CAMERON PARISH—Pure Oil Co.'s Yount-Lee Oil Co. 7, Sweet Lake, dr 3620 ft rock; Yount-Lee 8, Sweet Lake, dr 1820 ft gbo. Calcasieu Oil Co.'s Breaux 1, Kelso Bayou, tested salt water at 4206 ft; Valery 5, Kelso Bayou, completed for 1200 bbls pipe line oil at 3868 ft; Watkins 12, Kelso Bayou, completed for 900 bbls at 3960 ft. The Texas Co.'s Calcasieu Lake B-4, East Hackberry, lcn; Calcasieu Lake A-3, South Calcasieu Lake dome, lcn. Rycade Oil Corp.'s Yount-Lee 1, Hackberry, dr 3490 ft sand. Yount-Lee Oil Co.'s Perkins 1, Hackberry, lcn; School Land 8, Hackberry, dr 4000 ft rock. Cameron Oil Co.'s Benson Vincent 1, Hackberry, dr 2275 ft gbo. Shell Pet. Corp.'s Watkins 5, Black Bayou dome, dr 1265 ft; Watkins 6, Black Bayou dome, cor rock at 1375 ft.

IBERIA PARISH—La. Land & Explo. Co.'s Vermilion Bay A-3, dr 3200 ft sand and boulders. La. Oil & Gas Co.'s Bernard 1, New Iberia, r 2270 ft. Gulf's La. State Z-8, Loreauville, ru; Fannie Kling et al 3, Loreauville, dr 1662 ft sand and shale.

IBERVILLE PARISH — Shell Pet. Corp.'s Wilbert 3, White Castle, ru. Standard of La.'s Wilbert 2, Bayou Blue dome, lcn; Schwing 1, Blue Bayou dome, ru. Union Sulphur Co.'s Schwing 3, Bayou des Glaise, dr 2830 ft rock.

LA FOURCHE PARISH—Gulf's Stark et al 8, Thibodaux, fsh 1260 ft.

ST. LANDRY PARISH — The Texas Co.'s Botany Bay Fee 1, dr 1025 ft shale.

POINTE COUPEE PARISH—Miller et al's Kornbacker 1, dr 1925 ft shale.

ST. MARTIN PARISH—Rycade Oil Corp.'s State 3, Bayou Bouillon, lcn; Bayou Bouillon 5, td 3755 ft; Bayou Bouillon 6, ru; Atchafalaya Fee 3, Bayou Bouillon, cor sand at 4146 ft; Atchafalaya Fee 4, Bayou Bouillon, dr 4097 ft lime and sand; Atchafalaya Fee 5, Bayou Bouillon, drk. Ohio Oil Co.'s Martin et al 3, Hager dome, dr 4025 ft gbo. Yount-Lee Oil Co.'s La. Pet. Co. 3, Anse la Butte, dr 4150 ft sand.

ST. MARY PARISH—J. Dannenbaum et al's Le Blue 1, Charenton, sd 3015 ft.

ST. TAMMANY PARISH—Pearl Oil Corp.'s Fritsche 1, Slidell, prep to set 6-in csg at 2020 ft.

TANGIPAHOA PARISH — Tanli Oil Co.'s Weinberger 2, dr 3925 ft gbo.

TERREBONNE PARISH—Southern Gas Co.'s Peoples Sugar Co. 1, Houma, dr 2287 ft rock.

WEST FELICIANA PARISH—Robinson & Long's Raccourci 1, dr 2450 ft sandy shale.

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
UNION COUNTY—		
Stark et al, Powell 1, 35-18-15.....	*	3510

ASHLEY COUNTY—Texas Co.'s Keifer 1, 11-18-4, rig up. C. E. Harris et al's Holmes 1, 9-16-7, sd 151 ft.

BRADLEY COUNTY—Ohio Oil Co.'s Sou. Lbr. Co. 2, 19-16-9, dr 1654 ft.

CALHOUN COUNTY—Joe Hurley's Ark. Land & Timber 1, 29-16-12, cemtd 6⅝-in cas at 2303 ft td 2314 ft.

CLARKE COUNTY — Wm. Henry, Tr.'s Clark 1, 34-9-21, sd 1385 ft.

CHICOT COUNTY—W. S. Smith's Meyer 1, 14-19-2, sd 850 ft. Joe Crawford's Cashion 1, 14-18-2, ds stuck td 2330 ft.

COLUMBIA COUNTY—G. W. Dawley et al's Fullenwider & Kitchen 1, 12-17-22, sd wo 2847 ft.

DALLAS COUNTY — Robt. H. Dedman's Hillman 1, 20-10-13, temp abn 1145 ft.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Stermer 1, 17-4-13, sd 3462 ft.

FRANKLIN COUNTY — Ozark Nat. Gas Co.'s McElroy 1, 15-8-27, lcn.

GARLAND COUNTY— H. H. Given's Garrett 1, 1-13-19w, temp abn 2800 ft.

LOGAN COUNTY—Ark. Nat. Gas Corp.'s W. H. Parks 1, 26-8-24, setting 6⅝-in cas td 3208 ft.

MILLER COUNTY—E. A. Martin, Tr.'s Dale 4, 23-15-26, dr 2390 ft.

OUACHITA COUNTY — McDonald Bros.' Wilson 1, 25-15-18, dr 2705 ft. Little Fay Oil Co.'s Cannada 1, 24-15-16, dr 1170 ft. Cannada 2, 24-15-16, lcn. H. Primm 3, 24-15-16, arr to pump td 2084 ft.

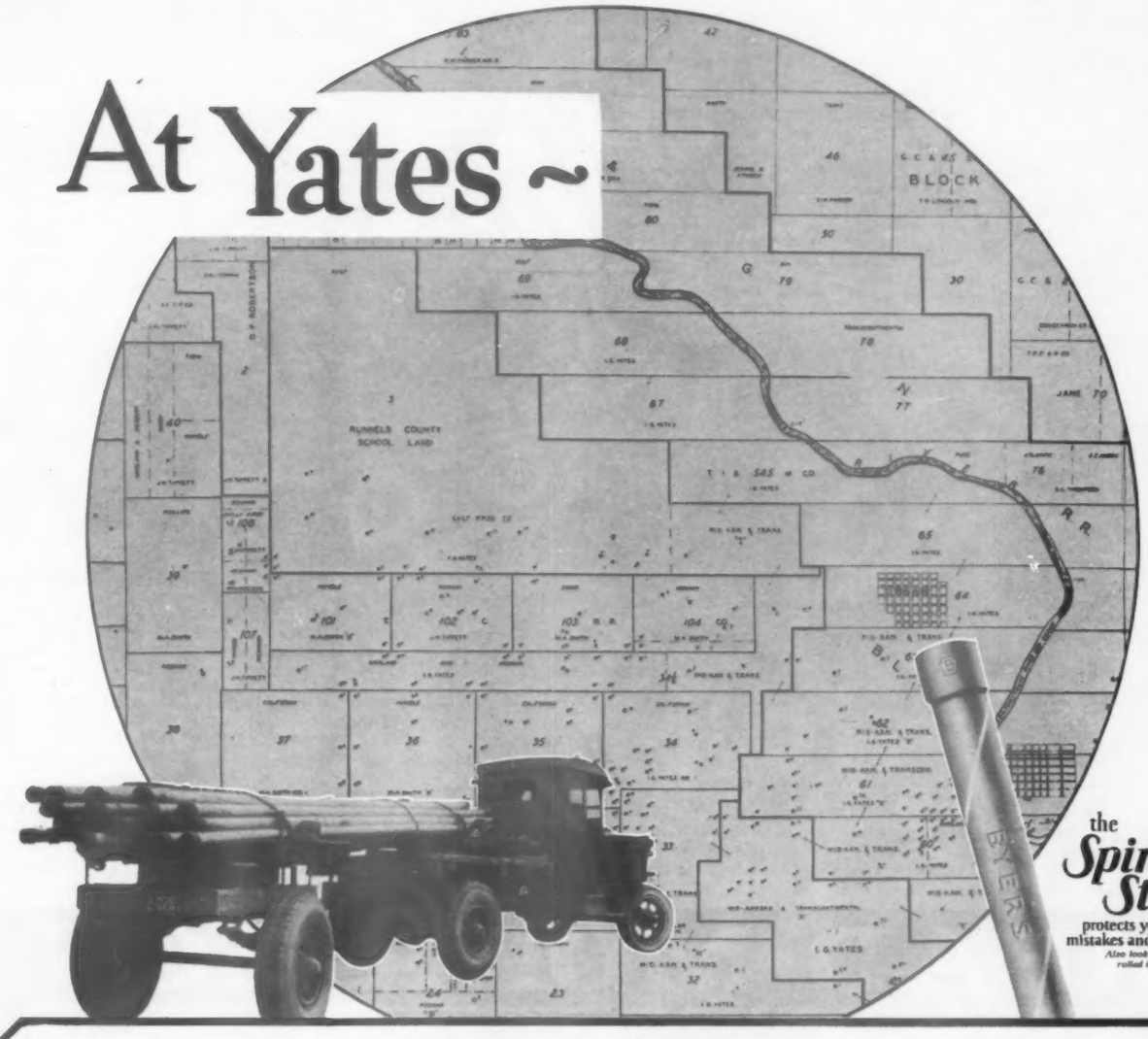
UNION COUNTY—Carter Bell et al's Terrell 1, 27-18-14, rig up. J. P. Hawkins et al's Goodwin 1, 6-17-15, sd 616 ft. Tharpe Drilling Co.'s List 1, 25-17-15, sd 3050 ft. Foster et al's Murphy Land Co. 1, 22-17-17, rig up wo. Calgo Oil Co.'s Primm 1, 9-18-17, sd wo 3600 ft. McDonald Bros.' Mayfield 1, 29-19-15, sd 1900 ft. Sam Sklar, Tr.'s Fitzgerald 10, 8-18-15, cemtd 6-in cas td 4142 ft. Stark et al's Powell 1, 35-18-15, dry abn td 3510 ft. Grimes Bros.' Hill 2, 2-18-14, rig up wo. Tate & Morefield's W. W. Smith 1, 6-18-13, sd for fuel td 3287 ft. J. C. Marcum's DeYambert 1, 5-19-4, sd 2672 ft.

MOUNTAIN STATES

NEW MEXICO

CHAVES — Snowden & McSweeney's Merchant 1, ne 27-15s-23e, fsh tools 3458 ft. R. E. Neal et al's Russell 1, 21-14-25e, ur at 1100 ft.

At Yates ~



the *Spiral Stripe*
protects you against mistakes and substitution
Also look for name rolled in metal

Extracts from Fields Reports

"A check-up on a very large user of Byers Tubing shows 'No trouble with any of the wrought iron tubing, either galvanized or black,' which they have in service in this area."

"In a well where the oil carried a sulphur content, other make of tubing failed in 203 days. It was replaced with wrought iron tubing. At the end of 426 days, the time of the report, the material was still in service."

"A record of two wells close to each other is interesting. One with ordinary 3" tubing was eaten up in 134 days. The other with 3" wrought iron, showed failure only after 318 days. Both were air wells making water."

"In another well in this field, ordinary tubing failed in 170 days. Wrought iron tubing was installed and 466 days later reported still in service. This is a pumping well."

The Yates pool in Pecos County is one of the most prolific areas in West Texas, having approximately 14,000 acres of practically proven territory for flowing oil production.

Many of the field superintendents in charge of this phenomenal pool, given proper facilities for opening up of the wells, are looking forward to a steady production and are depending upon the ability of genuine wrought iron tubing and casing to avoid shutdowns and interrupted operations.

Because of the great cost of replacing tubing at frequent intervals and the loss of production due to shutting down a well for replacement, most operators have found it economical to use Byers Galvanized Tubing because of the lasting qualities of galvanized wrought iron. Numerous tests have proven that galvanized wrought iron will give a service life many times that of ordinary tubing.

A. M. BYERS COMPANY, *Established 1864*, Pittsburgh, Pa.
Branch Offices: HOUSTON, DALLAS, LOS ANGELES, SAN ANTONIO, TULSA, SHREVEPORT
Distributors: International Supply Co., Jarecki Mfg. Co., Oil Well Supply Co.

BYERS *Galvanized* TUBING

GENUINE WROUGHT IRON

Say you saw it in The OIL WEEKLY

Warman et al's 1, sw 23-13s-24e, stand, 251 ft, wait casing.

DE BACA—Matador Oil Co.'s State 1, sw 6-4n-20e, dr 625 ft. McAdoo 1, ne 16-1s-27e, ready to resume, sd 4190 ft. Transcontinental Oil Co.'s McWhorter 1, 6-35-22e, to reset collapsed casing 860 ft.

GUADALUPE—Navajo Oil Co.'s Goard 1, 10-3n-17e, dr 3035 ft. Hanchett Oil Co.'s 2, 14-8n-24e, spudded 70 ft.

LEA—Midwest Refining Co.'s Farnsworth 19, 12-26-37e, fsh 3900 ft. Midwest's Farnsworth 13, 13-26-36, ready to spud. Marland's Eaves 1, 19-26-37, fsh tools 2969 ft. Marland's Sholes 1, 19-25s-37e, waiting dr pipe 3034 ft. Marland's Lynn 1, 26-23-36, coring at 3380 ft. Marland's Brooks 1, sw 8-20s-33e, sdtr bit 3475 ft. Marland's Reed 1, 22-20s-36e, dr 1485 ft. Marland's Meyers 1, 26-20s-37e, dr 3077 ft. Marland's Warren 1, 29-20-36e, dr 1800 ft. Marland's Lockhard 1, 31-21s-36e, dr 2000 ft. Marland's Slattery 1, 7-22s-34e, abn 4155 ft. Gypsy Oil Co.'s State 1, 34-21s-36e, gas well at 3950 ft. Gypsy Oil Co.'s Mattern 1, 24-21s-36e, rig. Exploration Co.'s Record 1, 26-19s-35e, td 4556 ft. Morton et al's State 1, ne 32-11s-38, sd 100 ft. Texas, Lynch 1, se 34-20-34, ready to spud. Texas, Sheppard 1, ne 6-26s-37e, dr 3125 ft. Texas, Cagle 1, se 9-26s-36e, dr 3380 ft. Texas, Humphreys 1, 18-20s-32e, lcn. Texas, Moberly 1, se 17-26s-37e, wtg parts. Curtis Drlg. Co.'s Nixon 1, 22-18s-34e, wait pipe, td 1150 ft. C. E. Reynolds Drlg. Co.'s Anderson 1, 29-13s-37e, plugged and abn 5260 ft. Cranfill & Reynolds, State 1, se 23-26s-36e, sulphur water at 3500 ft. Skelly Oil Co.'s Joiner 1, se 26-25s-36e, rerun 8¼-inch to 3259 ft. Hill & Abel's Maechtel 1, sw 5-26s-33e, dr 1955 ft. Maljamar Oil & Gas Corp.'s Pearsoll 2, 30-17s-32e, dr 3100 ft. Empire Gas & Fuel Co.'s State LA, nw 12-21s-34e, wait pipe at 850 ft. Texas Pacific Coal & Oil Co.'s State 1, sw 22-23s-36e, spudding 125 ft. Prairie O. & G. Co.'s Slattery 1, ne 22-22s-34e, ready to spud. Henderson et al's McDonald 1, se 18-20s-34e, dr 615 ft. Vacuum Oil Co.'s 1, 14-17-34, lcn. Ohio's State 1, 9-19s-38e, mvg in.

ROOSEVELT—J. T. Keegan et al's Pepper 1, 6-1s-36e, ready to bld rig. Smith & Sloan's Lovern 1, se 4-3s-35e, lcn.

SAN JUAN—Continental Oil Co.'s Munoz 17, 2-29-19, sdtr tools td 6338 ft. Dorothy Oil Co., 29-30-9, sd 712 ft. Huerfano Oil Co.'s Wiltbank 1, 25-29-11, stndg 800 ft. San Juan Pete Co., 1, 9-29-13w, sd 2950 ft. Kirtland Drlg. Co.'s Hunt 1, 10-29-15, sd 450 ft. Kutz Canon O. & G. Co.'s Day 1, 29-28-11, dr 539 ft. Midwest Refining Co.'s State 1, 36-22n-14w, completed as water well. Black rock Oil Co.'s 1, sw 11-25n-13w, sd temp 1550 ft, bad roads. Iowa Oil Synd., Viles 2, 28-29-11, stand 802 ft., bad roads. Angel Peaks Oil Co.'s Kutz Canon 1, 11-28n-11w, run 8¼-inch at 1450 ft. R. R. Burke et al's Deneen 1, 18-21-13, sd 1006 ft. Hall et al's 1, 31-22n-13w, sd 507 ft. Milwaukee-New Mexico Synd.'s Beardsley 1, 20-28n-11w, sd 1100 ft.

SAN MIGUEL—E. Adams et al's Deason 1, 14-15n-16e, sd 1235 ft. Benedict-Wilson 1, ne 25-17n-16e, sd 800 ft.

SOCORRO—Arnold et al's 2, ne 13-6s-1w, dr 1350 ft.

TORRANCE—Bluhall O. & G. Co., 20-6n-10e, wtg cas at 1444 ft. Hall et al., Pinos Wells 1, sw 25-3n-13e, stndg 400 ft. Sinnock et al's Kutchin 1, ne 13-7n-7e, ready to spud.

VALENCIA—Acme Oil Co., New Mexico-Arizona Land Co., 2, nw 13-6n-2w, wait pipe at 3145 ft.

UTAH

GRAND—Utah Southern, Salt Valley 1, 13-23-21, contr. compl. to 3000 ft. Utah Southern Shafer 1A, 36-26-20, dr 2578 ft. Navajo Pete Co., 2-29-21, dr 2840 ft. Intermountain Venture Co., 1, sw 27-21s-19, sd 1602 ft. Big Six Oil Co. and Utah Oil Refining Co., Randall 1, 10-22-19, fsh 1710 ft. Brendell Sons, Crescent Eagle 2, 9-22-19, resuming at 100 ft. Cisco Union O. & G. Co., 20-21-22, spudded.

DUCHESNE—Utah Southern Oil Co., Pleasant Valley 1, 29-4-1, dr 2578 ft.

SAN JUAN—Boulder Knoll O. & G. Co., 17-34-25, prep. to resume at 2640 ft. Navajo Pete Co. of California, 1, 12-35-24, lcn.

UTAH—Diamond Oil Co., 3, ne 29-8s-5e, dr 1700 ft.

WAYNE—Phillips Pete Corp., 1, 16-27-16, sd wait repairs 4285 ft.

WYOMING

ALBANY—Union of California 1, 1-16-76, dr 2211 ft.

BIG HORN—Utah Southern Oil Co., 3, 26-56n-97w, prep to test at 3765 ft. Producers & Refiners 3, 24-56-98, rigged rotary, td 2708 ft. Prairie O. & G. Co., Chilcote 1, 35-56n-95w, dr 1715 ft. P. & R., South Frannie 1, 7-57-97, dr 1355 ft.

CARBON—P. & R., 3, 2-19-88, dr on iron 3909 ft. P. & R., O'Brien Springs 6, 12-24-88, drill 138 ft. Graybeal Synd., 16-28-21, temp. sd 5184 ft. Producers Oil Corp., se 35-12-92w, ready to resume, td 1005 ft. W. J. Davis, 6-16-92, lcn.

CROOK—Geo. W. Douglas, 34-52-67, lcn.

FREMONT—P. & R., Muskrat 2, nw 1-33n-92w, lcn. Gates & Holman, 6-33-94, material on lcn. Kinney-Coastal 1, 22-3n-1w, rig up.

HOT SPRINGS—Texas Prod. Co., sw 23-45n-100w, set and cem 20-in at 525 ft. Westland Oils, Inc., 23-44n-95, rig. MacPherson Oil Co., 2-44n-96w, no report.

LINCOLN—Midwest Refining Co., Waterfall 1, 35-22-115, dr up lugs and run cas, td 1765 ft. Midwest Refining Co., Little Grey's River 1, 25-37-113, dr 1000 ft. Quad States, se 11-19-16, dr 2500 ft. Reeves Aylemore, 7-21-1119, changing to rotary.

PARK—Grebo Royalty, Inc., 2-47-100, dr 1600 ft. California Exploration Co. and P. & R. Pitchfork 1, 12-48n-102w, cem 20-inch at 225 ft. Resolute Oil Co., nw 17-57-101, dr 1900 ft. Cody Pete, Nelson 1, 4-51-102, dr 1900 ft. Oregon-Wyoming Oil Co., 1, sw 30-52-101, td 1100 ft. Ohio Oil Co., Pulley 1, 27-53-101, plug back and so water. Lenco Oil Co., Pulley 1, 25-53-101, dr 725 ft. California Exploration Co., 1, 29-48-103, sd 200 ft. Midwest Refining Co., 36, 25-58-98, lcn. Midwest Refining Co., se 23-58-98w, rigging.

SWEETWATER — Prairie O. & G. Co., Tucker 1, 18-13-99, ur 2480 ft. Ohio Oil Co., Humphreys 1, 2-12-101, dr 1630 ft. Sormir Pete Co., 13-21-100, stand 1335 ft.

SUBLETTE—California Co., Wyss 1, 12-

MEAD-MORRISON

No Other Winch Will Do the Work Done by Mead-Morrison Winches

says Neil Comer of Wewoka, Okla., and he now 7 Mead-Morrison.

Ask our Distributor for a catalog No. 29

MEAD-MORRISON MANUFACTURING CO.

161 PRESCOTT STREET, BOSTON, MASS.

SOUTHWESTERN DISTRIBUTORS

Hobbs Mfg. Co., Fort Worth, Texas
Eller & Gripp Co., Houston, Texas
Williamson Motors Inc., Tulsa, Okla.
Nat'l Steel Prod. Co., Kansas City, Mo.

CRANES MOTOR TRUCK WINCHES DERRICKS

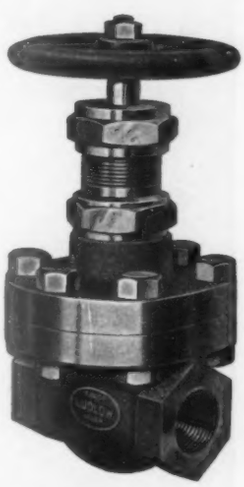
LUDLOW announces

IRON BODY
BRONZE MOUNTED
ALL IRON
CAST STEEL
VALVES

—ALL SIZES AND PRESSURES—

FOR *Refinery, Pipe Line & Drilling* AND *Hand, Cylinder & Electrical* OPERATED

DISTRIBUTED BY
MID-CONTINENT SUPPLY CO.,
HOUSTON, TEX. FORT WORTH, TEX.
PEDEN IRON & STEEL CO.
SHREVEPORT, LA.
THE LUDLOW VALVE MFG. CO.
TROY, NEW YORK
KANSAS CITY - CHICAGO - BOSTON - PITTSBURG



LUDLOW VALVES

CATALOG ON REQUEST

Say you saw it in The OIL WEEKLY

32n-115w, dr 1030 ft. Calif. Co., Buchell 1, 11-29-115, sd 2410 ft.

UINTA—California Co., U. P. 1, 7-17-116w, dr 2239 ft. E. L. Doheny, 6-14-118, dr 2300 ft.

WESTON—Wyo. Drlg. Synd., ne 15-44n-64w, sd for winter 4350 ft. Teton Pete, 30-46-64, spudded in and dr ahead.

MONTANA

BIG HORN—Texas-Montana Prod. Co., 2, 21-6s-35e, cem 188 ft.

BROADWATER—New Day Oil Co., 1, ne 29-5n-1e, dr in hole full of water.

BLAINE—Ohio Oil Co., Winngert 1, 3-34n-32e, fsh bailer 2315 ft.

CASCADE—Eden O. & G. Co., 27-18-4e, td 670 ft. U. S. Pete Co., Miller 1, 8-21-4e, run cas 935 ft. John E. Winther et al, Power 1, 11-22-11e, td 1850 ft.

CARBON—Ohio Oil Co., Northern Pacific 1, 11-7s-21e, fsh 4458 ft. Local Oil Co., 1, 25-9s-25e, no report.

CHOTEAU—Geraldine O. & G. Co., ne 1-21-11e, dr 1425 ft. Williston-Shelby O. & G. Co., 1, 12-28-11e, pull cas, td 2675 ft.

CUSTER—Montana Belle, ne 28-8n-45e, dr 1400 ft.

FERGUS—Melton Corp., 1, se 24-21n-17e, resum 2665 ft. Judith Basin Oil Co., 1, 33-19n-12e, sd 1925 ft, wait cas.

GALLATIN—California Co., Rnigling 1, 35-5n-7e, dr 605 ft.

JUDITH BASIN—Gem Oil Co., 15-16-10e, rig up.

LIBERTY—Sunburst O. & R. Co., Bear's Den 1, nw 17-36-6e, fsh 1250 ft. Square Deal Pete, Johnson 1, se 1-32-7e, dr 3200 ft. Mid-Rocky Dev. Co., Federal Lands 1, 7-33-73, sd 1500 ft. Western Natural Gas Co., 22-37-4e, sd 2000 ft. Cypress Oil Co., State 1, sw 36-28-6e, dr 1300 ft.
10n-25e, lcn.

PONDERA—Trapp Syndicate, Hover 1, 35-28-22e, td 1850 ft.

STILLWATER—J. S. Stewart, 5-2n-22e, set cas at 2130 ft.

SWEETGRASS—Shoshone Consolidated 1, 23-2n-15e, sd because of illness of crew, td 4020 ft.

TETON—Texas Pacific, 12-22-1w, mvg in. Mitchener et al, Mattoon 1, sw 3-23-1w, cem 1673 ft.

TOOLE—Monalta Oil Co., 1, 1-37-4w, spudding. Wm. J. Maham 1, 10-31-1w, sd indefinitely 1900 ft.

COLORADO

ARCHULETA—Juanita Oil Co., Harvey 1, sw 4-32n-3w, stand 725 ft.

BENT—Marland Oil Co., Pipe Springs 1, se 27-29s-49w, sd water shortage 3987 ft.

JACKSON—Producers & Refiners, State 1, ne 2-6n-81w, sd 1900 ft.

JEFFERSON—Ruby Hill O. & G. Co., Braden 1, se 14-4s-69w, dr 767 ft.

LAS ANIMAS—Alavier Pete Co., Branson 1, ne 3-35s-58w, ready to spud. Parker Club-Kinney Coastal 1, se 4-28s-68w, ready to resume.

LA PLATA— Childers Drlg. & Prod. Co., Dry Mesa 1, 29-32n-14w, sd indefinitely, td 820 ft. Royal P. & R. Co., Red Mesa 1, 27-33n-12w, sd 650 ft, bad roads.

LINCOLN—Kelly Oil Co., State 1, ne 36-14s-57w, sd 1415 ft.

MESA—Peerless Oil Co., Hoel 1, ne 23-8s-104, td 2058 ft, ready to deepen.

MORGAN — Badger Creek O. & G. Co., Kent 1, sw 2-50n-10, sd 800 ft.

MOFFAT—Ohio Oil Co., State 1, 16-12-100, dr 3180 ft. Alliance Oil Co., Milliken 1, 14-4n-92w, suspended at 3575 ft. McLaughlin et al, Williams 1, 2-3n-91w, dr 535 ft. McCormick et al, Sales 1, se 28-4n-92w, sd 2700 ft.

MONTROSE—Uncompahgre O. & G. Co., Colorado Title & Trust Co., 1, 27-50n-10w, ur at 1371 ft.

RIO BLANCO—White Eagle O. & R. Co., Fordham 1, sw 9-2s-96w, fsh 610 ft.

YUMA—Parker Club, sw 7-2s-43, run 15½-inch to 815 ft.

WELD—Platte Valley Pete Corp., Patterson 1, sw 24-6n-61w, td 4149 ft. Etnyre Oil Synd., Black Wolf 1, sw 7-2s-43w, dr 975 ft.

KANSAS

BARBER COUNTY — Barbara Oil Co.'s Lytle 1, cnl ne ne sw, 12-33-13w, rig; Blunk 1, c ne nw 20-34-13w, fsh 4755 ft. Roland et al's Pickens 1, ne nw ne 27-30-14w, dr 4223 ft.

BUTLER COUNTY—LaRobb et al's Bronsenger 1, ne se 24-27-3, ru. Barnsdall's Means 1, nw sw 34-27-2e, dr 1860 ft.

CHASE COUNTY — Grisner & Fowler's Carson 1, ne ne 9-21-7, sd 3150 ft.

COWLEY COUNTY — Pyle & Sutter's Lindstrum 1, se ne 9-35-4e, dr 1650 ft. Empire-Marland Twin State's Feaster 1, nw ne 36-32-6e, dr 3165 ft. Wakefield & Osborne, Osborne 1, nw ne 18-30-5e, rig.

EDWARDS COUNTY — Amerada-Wilcox Teansil 1, nw cor 32-25-19w, dr 3815 ft. British-American Oil Co., McCarty 1, ne nw 31-25-17w, spudded and sd.

ELLIS COUNTY — Rush Oil Co.'s Gatewood 1, nw nw 4-15-20w, sd 1100 ft. Finney & Weimer Freeman 1, nw se se 24-15-20w, spudded and sd. Empire's Wann 1, ne 31-12-19w, show oil 3485 ft. Marland's Vine 1, sw se 27-11-9w, 8-inch csg 2812 ft, dr 3430 ft. Transcontinental's Boetcher 1, nw se sw 21-13-19w, sd 3662 ft. Phillips Brull 1, c nw¼ 34-14-17w, dr 550 ft. Phillips Schmeidler 1, nw cor 20-12-17w, ru. Labette Oil Co.'s Urbank 1, ne nw nw 19-15-16w, dr 3215 ft. Thomas Moncrief's Johnson 1, sw ne 9-13-19w, ru. Derby & Empire's Krause 1, se nw se 17-14-19w, 150 ft oil in hole 3829 ft ur. Davis & Hazlett Weiland 1, nec 1-13-16w, spudded.

GREENWOOD COUNTY—P. H. Balieu's Bright 1, ne sw 22-27-12, sd 1210 ft.

HARPER COUNTY—Amerada's Mendiville 1, c se se 24-34-6w, co 5353 ft.

HARVEY COUNTY — Margaret Gay Oil Co.'s Groue 1, nw ne nw 29-23-1w, timbers.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nw sw sw 19-10-17, ru sd.

LANE COUNTY—Robinson et al's Dickerson 1, sw nw se 11-18-27w, 8-inch casing 2625 ft.

MARION COUNTY—Empire's Jensen 1, se nw 26-22-5e, dr 2557 ft.

MARSHALL COUNTY—Irwin et al's Cooper 1, ne nw 10-3-7e, spudded.

MITCHELL COUNTY—Ben Gurley et al's Crombil 1, c ne ne 32-9-7w, dr 4007 ft.

MORRIS COUNTY—Hugh Faulder's Wendt 1, sw se se 19-15-5e, rig. Skelton et al's Iles 1, nw nw 25-16-5e, rig.

McPHERSON COUNTY — McPherson Co. Gas Co.'s Stein 1, sw ne sw 17-18-1w, dr 3007 ft; Gustafson 1, c ne¼ 9-17-2w, sd 3437 ft. Ted Washabaugh's Vosshell 1, ne ne 9-21-3w, dr 1945 ft.

OTTAWA COUNTY—Anderson et al's Bank 1, ne nw 28-10-2w, sd 2820 ft.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel ne ne 31-21-16w, sd 1560 ft.

PHILLIPS COUNTY — Watsonian Oil Co.'s Marklein 1, ne sw 21-3-19w, sd 3015 ft.

RICE COUNTY—Allison & Fitzwilliams' Poland 1, ne sw ne 36-19-8w, cellar.

ROOKS COUNTY—Krueger et al's Poore 1, ne ne 14-8-16w, dr 3350 ft. Prairie's Sandberg 1, c sw¼ 20-9-8w, rig. Prarie's Gick 1, se 22-9-19w, rig.

RUSH COUNTY—Danciger O. & R. Co.'s Pinonka 1, c ne 17-19-17w, spudding. Sinclair's Beiching 1, nw ne nw 9-16-16w, dr 3425 ft. W. H. Skelton et al's Brack 1, nec sw sw 12-12-16w, spudded. Phillips Legleiter 1, c ne nw se 10-16-18w, rig.

SALINE COUNTY—M. Esty et al's Peterson 1, c ne 6-16-5w, spudded and sd. Nathan-Jones et al's Robertson 1, nw sw 27-14-2w, dr 2705 ft.

SEDGWICK COUNTY—LaRobb Oil Co.'s Davis 1, ne sw se 36-25-1w, fsh 3370 ft. Buvibar Pet. Co.'s Steel 1, se cor 1-26-2w, dr 3275 ft. Barnsdall's Samuels 1, ne nw 24-25-1e, dr 1860 ft; Faber 1, sw nw 6-27-1w, dr 2950 ft. Morgan & Tilley, Fitzgerald 1, nw ne 5-26-1w, ru. Van Zandt & Mason's Fox 1, c nw sw 19-25-1w, sd 2780 ft. Connell Oil Co.'s Cross 1, ne cor 27-25-1w, sd 2660 ft. Morgan et al's Corn 1, sw ne 28-25-1w, 29-inch pipe 200 ft. Kyser et al's Street 1, sw nw 28-26-1w, spudding. H. H. Patton's Ryder 1, nec 22-25-1e, rig.

SHERMAN COUNTY—A. L. Henson et al's Murray 1, ne se nw 22-7-40w, sd 3035 ft.

STEPHENS COUNTY—W. Sidwell et al's Kelly 1, sw ne 16-34-38w, sd 1160 ft. Trees Oil Co.'s Unknown 1, sw ne sw 3-35-38w, skidding rig. McKenna et al's Hamm 1, se ne 10-33-38w, 10-inch csg 1330 ft, dr 1510 ft.

SUMNER COUNTY — Gypsy's Willams 1, nw se sw 16-35-3w, dr 4385 ft. McCulloch et al's Tuttle 1, sw ne 29-34-1w, dr 4350 ft. Otstot et al's Volker 1, nw ne 9-35-1e, rig. Helmerick & Payne's Warlick 1, se ne 8-34-2e, dry and abn 3854 ft. Davidson et al's Strickland 1, sw se 12-35-1w, rig.

SMITH COUNTY — Mid-Kansas' Blank 1, nec 4-2s-13w, spudded.

TREGO COUNTY—Central Commercial Oil Co.'s Ellis 1, ne sw ne 20-13-21w, sd 3030 ft.

WASHINGTON COUNTY—McCool & Vincent's Linn 1, nw ne 27-4-3e, ru.

OKLAHOMA

WOODS COUNTY—T 28n, R 18w, Sec. 11, George Vincent et al's Freedom 1, c sw ponds.

GRANT COUNTY—T 28n, R 3w, Sec. 24,

Gott
Water Can
Gottkool
Built to last—you will always be assured of a fresh supply of pure water, when you have a GOTT. Made in 1½, 3, 5 and 10 gallon sizes. Order now from your supply store.
H. P. GOTT MFG. CO.
Winfield, Kansas
Gott
WATER CAN

1929 START THE NEW YEAR RIGHT

- Baldwin Chain
- Cameron Iron Works
- Dunn Tubing Stops, Tongs and Elevators
- Guiberson Tubing Catchers
- Regan Equipment
- Garco Brake Band Lagging
- Wickwire Spencer Wire Lines
- A. H. Neilson Hooks—Elevators
- A. H. Neilson Rod Sockets
- Lion Paw Belting
- Lucey Drilling Equipment
- McClatchie Automatic Catheads
- McClatchie Cement Heads
- Armco Tubing
- Hughes Tool Company Products
- Reed Roller Bit Company Products
- Switzer Rubber Crown Metallic Packing
- Texas Iron Works Products
- Turbolite Generators
- Hindman Sub-Swivels
- W. K. M. Products

Send Us Your Orders

YOUR patronage during the past is greatly appreciated, and your 1929 business is solicited on the same meritorious record of service and satisfaction.

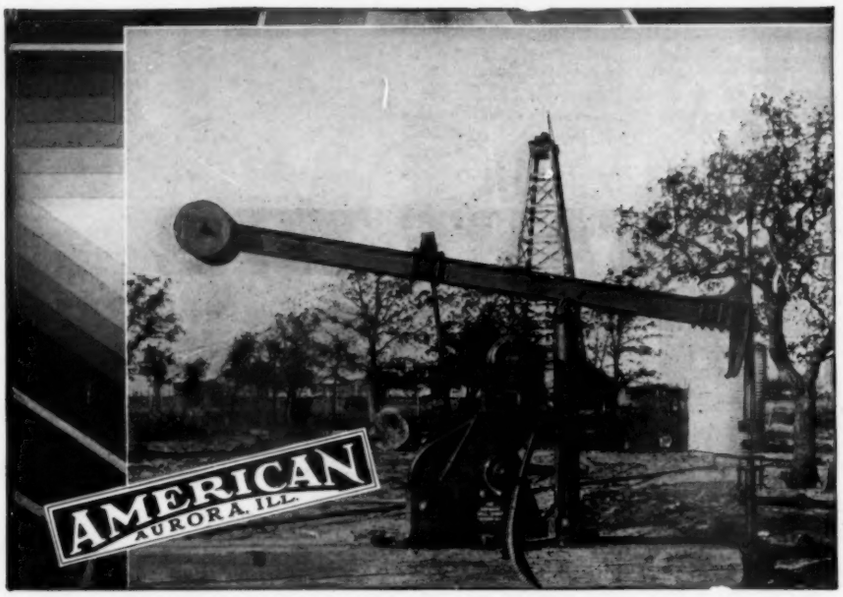
From the opposite list of well known supplies, select your equipment and "send us your orders."

"KNOWLEDGE"

T. T. WORD SUPPLY CO.

OF OIL FIELD PROBLEMS AND EQUIPMENT

HOUSTON, TEX. SHREVEPORT, LOUISIANA. LAKE CHARLES LA.



The "American" Oil Well Pumping Jack!

The "American" Totally Enclosed Oil Well Pumping Jack has been designed in answer to the demand for the efficient pumping of individual oil wells.

American Jacks are made in three sizes—twelve-inch to fifteen-inch stroke, fifteen-inch to eighteen-inch stroke, and eighteen-inch to twenty-two-inch stroke. All gears are totally enclosed and run in a bath of oil which floods the bearings, insuring smooth operation and long life. The head proper may be disengaged from the cable and swung back from the walking beam, permitting the rods to be pulled without moving the jack itself. There are no screw mechanisms or adjustments necessary. No gears are exposed.

Compact, sturdy and economical in operation.

Ask for Bulletin 181

C. S. CARTER, Agent **Box 1511, Tulsa, Okla.**

GENERAL OFFICES AND WORKS: AURORA, ILL.

THE AMERICAN WELL WORKS

Branch Offices:

Chicago, Ill., 1615 First National Bank Bldg.
New York, N. Y., Room 523—165 Broadway.
Los Angeles, Cal., 420 E. Third St.

District Sales Agencies:

Boston, Mass.
Detroit, Mich.
Tulsa, Okla.
Denver, Colo.
St. Louis, Mo.
Salt Lake City, Utah.
Vancouver, B. C., Canada.
Omaha, Neb.
Birmingham, Ala.
Joplin, Mo.
Atlanta, Ga.
Dallas, Tex.
Charlotte, N. C.
Pittsburgh, Pa.
Roswell, N. Mex.
Portales, N. Mex.
Philadelphia, Pa.
Kansas City, Mo.
St. Paul, Minn.
San Francisco, Calif.
El Paso, Texas.

CARBON (BLACK DIAMONDS)
FOR DIAMOND CORE DRILLS

—IMPORTERS—
INDUSTRIAL DIAMONDS
—MANUFACTURERS—
DIAMOND POINTED TOOLS FOR ALL MECHANICAL PURPOSES

WRITE OR WIRE FOR CATALOGUE AND FULL PARTICULARS
THE DIAMOND DRILL CARBON CO.
PARK ROW, NEW YORK, N.Y. CABLE ADDRESS, CREDOTAN, N.Y.

Lario O. & G. Co. et al's Connell 1, nwc, u 15½-inch csg 550 ft.

HARPER COUNTY—T 27n, R 21w, Sec. 24, A. F. Kopisch Oil Co.'s Selman 1, nec se, spudded and sd.

WOODS COUNTY—T 27n, R 15w, Sec. 20, Sooner State Oil Co. & E. R. Black's Marcum 1, c sw, spudded and sd.

GRANT COUNTY—T 26n, R 4w, Sec. 34, Sooner State Oil Co.'s Royce 1, swc nw, sd 550 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent & Nat'l Union's McNeal 1, nwc ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil Co.'s Cooper 1, nwc se, sd 4182 ft, litigation.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu Vi Bar et al's 1, sec sw, surface pipe at 80 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden's Vollner 1, nec se ne sw, lost tools 5640 ft, sd.

TEXAS COUNTY—T 1n, A 18 E.C.M., Sec. 11, Three Way Oil Co.'s Price 1, sec nw, hfw 3490 ft, sd.

WOODWARD COUNTY—T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, sec, sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller et al's Copenhaver 1, nwc, spudded and sd.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, sec nw, sd 4755 ft.

WOODWARD COUNTY—T 23n, R 20w, Sec. 9, Billy Oil Co.'s Wyatt 1, c se, sd 550 ft. T 21n, R 21w, Sec. 25, Sharon's Elmore 1, swc, sd 3025 ft, rig blown down.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keller et al's Horton 1, c ne ne, spudded and sd.

GARFIELD COUNTY—T 20n, R 4w, Sec. 9, Marland Oil Co.'s Looman 1, nec se, sd 5735 ft, casing parted. Sec. 12, Marland Oil Co.'s Miller 1, swc, hfw 4586 ft, sd.

DEWEY COUNTY—T 18n, R 15w, Sec. 9, Huckelby & McCoy's Perfect 1, nec, fsh 4395 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drlg. Co.'s Quier 1, sec sw, fsh tools 3970 ft. T. 18n, R 2w, Sec. 21, Tibbets & Bond's Donahue 1, swc nw se, show of oil at 5395-5405 ft, sand 6002-22, water, sd.

KINGFISHER COUNTY — T 16n, R 6w, Sec. 27, Crawford & McKenna's Sturgeon 1, nec sw, sd 4846 ft.

BLAINE COUNTY—T 15n, R 12w, Sec. 26, W. J. Donley's Dickens 1, sec ne, dr 4390 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears' Piatt 1, swc ne, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 3w, Sec. 18, Slick and Bailey's Lufkin 1, c ne se, dr 4680 ft. T 12n, R 3w, Sec. 15, Cromwell et al's Thompson 1, swc ne ne, top Wilcox 6940 ft, dr 7060 ft. T 11n, R 3w, Sec. 24, I. T. I. O. Co.'s Park 1, c se se, est. 40 M gas 4793-4816 ft, top sand 6382 ft, dr at 6415 ft, producing 5600 bbls.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey's Robinson 1, c ne nw, spudded and sd.

OSAGE COUNTY—T 26n, R 6e, Sec. 25, White Eagle O. & R. Co.'s 1, sec ne, td 2802 ft, dry and abandoned. T 22n, R 8e, Sec. 8, Harry McGill's 1, swc se, dr 2350 ft.

PAWNEE COUNTY—T 22n, R 5e, Sec. 33, Washoma O. & G. Co.'s Buffalo 1, sec nw, sand 3615-40 ft, water, sd.

LINCOLN COUNTY—T 16n, R 4e, Sec. 15, J. V. Bailey et al's House 1, c ne se, cemented 8-inch 3384 ft, rus tools. T 16n, R 6e, Sec. 19, Morgan & Flynn's Finley 1, swc, lcn. T 15n, R 6e, Sec. 23, Shaffer O. & R. Co. et al's Pinkston 1, nec sw, dr 3560 ft. T 12n, R 3e, Sec. 29, Phillips Pet. Co.'s Roberson 1, sec nw, rig. T 12n, R 6e, Kingwood Oil Co.'s Jennings 1, swc, sand 4620-27 ft, hfw, dry and abn.

CREEK COUNTY—T 14n, R 9e, Sec. 10, Transcontinental Oil Co.'s Taylor 1, nwc sw se, dr 3552 ft. Sec. 26, T. Kelley et al's Anderson 1, swc se, dr 585 ft.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 30, Tidal Oil Co. et al's Barnett 1, sec ne ne, dr 1615 ft.

MUSKOGEE COUNTY—T 13n, R 18e, Sec. 33, L. T. Haynie's Linder 1, c se, show gas 2200-49 ft, sd 2290 ft.

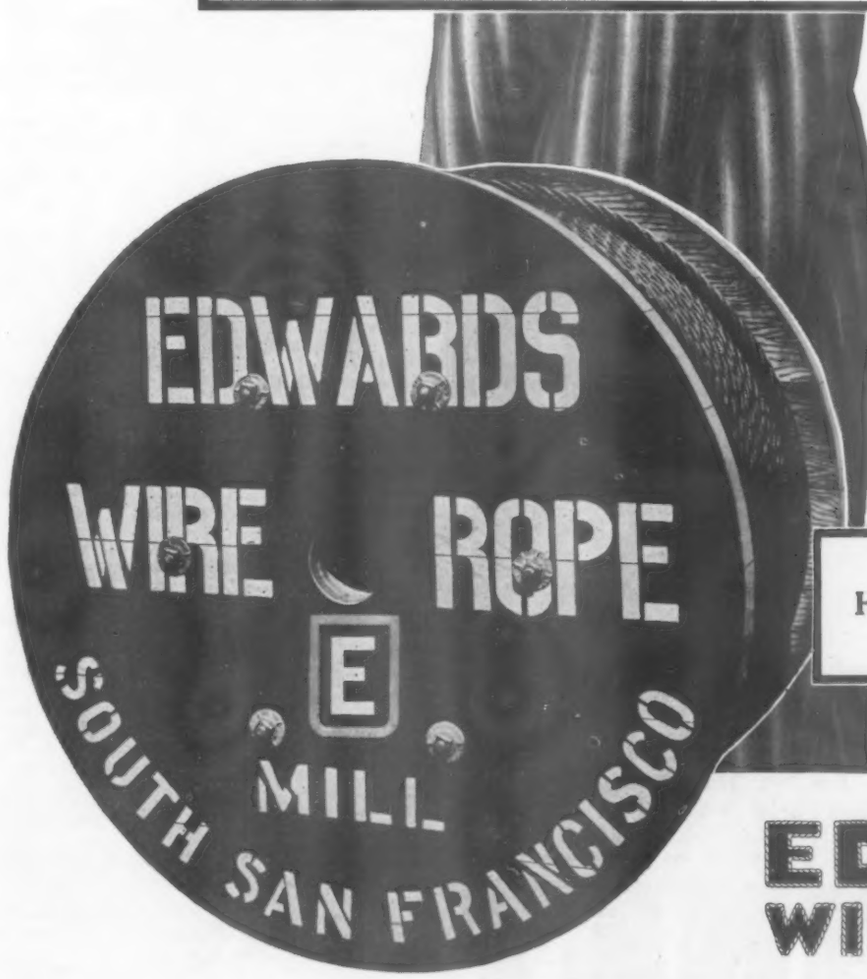
McINTOSH COUNTY—T 12n, R 18e, Sec

Heavy Duty ROTARY LINES

Edwards Rotary Lines brought the term *Heavy Duty* to the oil world and standardized it by performance which more than justified the name.

If you are having trouble with lines crushing on drums or wearing excessively on sheaves, use Edwards Heavy Duty.

E. H. EDWARDS COMPANY
Standard Oil Building - - - - - - - - - San Francisco



Mid-Continent Distributors
HINDERLITER TOOL CO.
Tulsa, Okla.

EDWARDS WIRE ROPE

EVERYTHING *for the* **OIL WELL**

Headquarters for

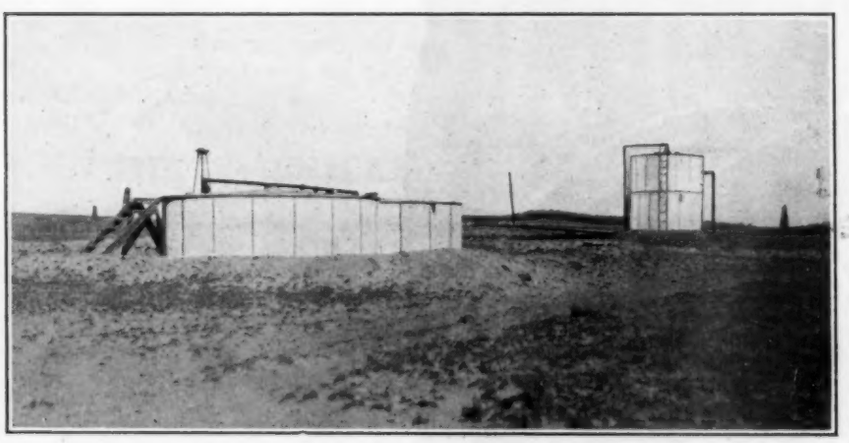
Drilling Tools

Write, Wire, or Phone
Us Your Orders

THE LARGEST SUPPLY HOUSE IN THE SOUTHWEST

PEDEN IRON & STEEL CO.

HOUSTON – SANANTONIO – SHREVEPORT



PROTECTING TEXAS OIL

Shown above are two 500-Barrel Low Type tanks and one 500-Barrel flow tank on the Cockrell Ranch, White and Lane Oil Co., at Pampa, Texas.

MADE OF KEYSTONE COPPER STEEL

THE MALONEY TANK MFG. CO.

Tulsa, Okla., U. S. A.

Distributors at All Principal Petroleum Points

MADE OF KEYSTONE COPPER STEEL

Sizes: 12 to 10,000 Barrels

Packed in Steel-Bound Crates for Export.

MALONEY

15, A. B. Wolfe et al's Beck 1, nwc se, spudded and sd.

PITTSBURGH COUNTY — T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, swc nw se, 3 M gas 4613-35 ft, Wilcox 5443-65 ft, have been drilling on iron for 19 days without making any hole.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co.'s Sanders 1, nwc ne sw, rebuilt rig 1800 ft, sd.

PITTSBURGH COUNTY — T 6n, R 14e, Sec. 7, McAylor et al's Reed 1, nwc sw nw, sd 1103 ft.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O. & G. Co.'s Murray 1, swc, 1½ M gas 2518-22 ft, sd.

SEMINOLE COUNTY—T 11n, R 6e, Sec. 27, Fuhrman Pet. Co.'s Fay 1, scc nw sw, td 4644 ft, fsh.

OKFUSKEE COUNTY—T 11n, R 7e, Sec. 21, T. B. Slick's Wolfe 1, sec ne se, dr 3150 ft.

SEMINOLE COUNTY—T 11n, R 7e, Sec. 34, Phillips Pet. Co.'s Mill 1, nwc sw, dr 1175 ft. T 10n, R 7e, Sec. 5, Marland Oil Co.'s Strothers 1, nwc se ne, dr 3550 ft. Sec. 18, Shaffer O. & R. Co' et al's Jones 1, swc ne, ts 4705-10 ft, hfw, pb 3715 ft sd.

POTTAWATOMIE COUNTY—T 9n, R 4e, Sec. 11, Atlantic & Phillips' Bank 1, swc ne ne, td 4620 ft, 3500 ft water, ur 6-inch csg. T 9n, R 5e, Sec. 30, Magnolia Pet. Co.'s Germany 1, sec nw, top Hunton 4159 ft, 1200 ft fluid in hole, ur 5-inch 4359 ft. T 8n, R 2e, Sec. 24, Superior Oil Corp.'s Jones 1, swc nw ne, fsh 4932 ft. T 8n, R 3e, Sec. 12, T. B. Slick's Nix 1, sec nw nw, dr 2950 ft.

SEMINOLE COUNTY—T 8n, R 8e, Sec. 4, McCullough's McGilbray 1, swc ne, fsh 1450 ft.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner Oil Co.'s Vandeveer 1, nec nw sw, sd 3120 ft.

POTTAWATOMIE COUNTY—T 7n, R 2e, Sec. 17, T. B. Slick's Spangler 1, nwc se nw nw, dr 6064 ft. T 7n, R 5e, Sec. 14, Champlin Ref. Co., Harber 1, swc ne sw, dr 4408 ft, hfw.

POTTAWATOMIE COUNTY—T 6n, R 5e, Sec. 17, Roxana Pet. Corp. et al's Lowe 1, swc nw ne, dr 4357 ft.

McCLAIN COUNTY—T 5n, R 3e, Sec. 29, Empire's Bonner 1, se nw nw, cemtg. 8-inch 4160 ft.

SEMINOLE COUNTY—T 5n, R 6e, Sec. 11, T. B. Slick's Harjo 1, nwc ne, sand 3840-53 ft, hfw sd.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney's Huddleston 1, sec sw, show oil 2745-55 ft, sd 3000 ft.

PONTOTOC COUNTY—T 4n, R 4e, Sec. 20, Roxana Pet. Corp.'s Smith 1, nwc sw, top Wilcox 1900 ft, td 2610 ft, hfw, dry and abn. T 4n, R 8e, Sec. 23, Independent's Hampton 1, nec se, lcn.

MURRAY COUNTY—T 1n, R 2e, Sec. 17, Revels & McGee's Wolfe 1, nwc, td 1770 ft, sd.

COAL COUNTY—T 1n, R 9e, Sec. 24, Galbreath et al's Jones 1, swc se, dr 2800 ft.

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt's Wellman 1, c se, sd 100 ft.

CADDO COUNTY—T 12n, R 11w, Sec. 15, Abernathy & Ashton's 1, c nw, sd 4603 ft.

ROGER MILLS COUNTY—T 11n, R 26w, Sec. 4, L. C. Hivick's Davis 1, c nw ne, sd 700 ft.

BECKHAM COUNTY—T 8n, R 25w, Sec. 1, E. L. Martin's Daly 1, c nw se, dr 2470 ft. T 8n, R 21w, Sec. 33, Day Oil Co.'s Ault 1, c nw nw, dr 1070 ft.

KIOWA COUNTY—T 7n, R 16w, Sec. 26, Connor & Son's Geis 1, sec nw ne, sd 1712 ft. T 7n, R 15w, Sec. 35, Davis Malernee's Van Kirklan 1, nwc, sd 858 ft. T 6n, R 16w, Sec. 18, Alexander et al's Fuqua 1, swc ne, owdd, sand 428-440 ft pumped 225 bbls in 31 hours, shut down for storage. T 6n, R 15w, Sec. 6, Johnson McDowell 1, c sw ne, dr 2300 ft. T 6n, R 14w, Sec. 31, Sloan et al's Sloan 1, ne cor, lcn.

CADDO COUNTY—T 6n, R 12w, Sec. 29, W. J. Hartley's Gilbreath 1, se cor nw se, owdd, sd 3394 ft.

KIOWA COUNTY—T 5n, R 14w, Sec. 6, Russell & Sloan's Rushton 1, ne cor sw se, dr 1590 ft.

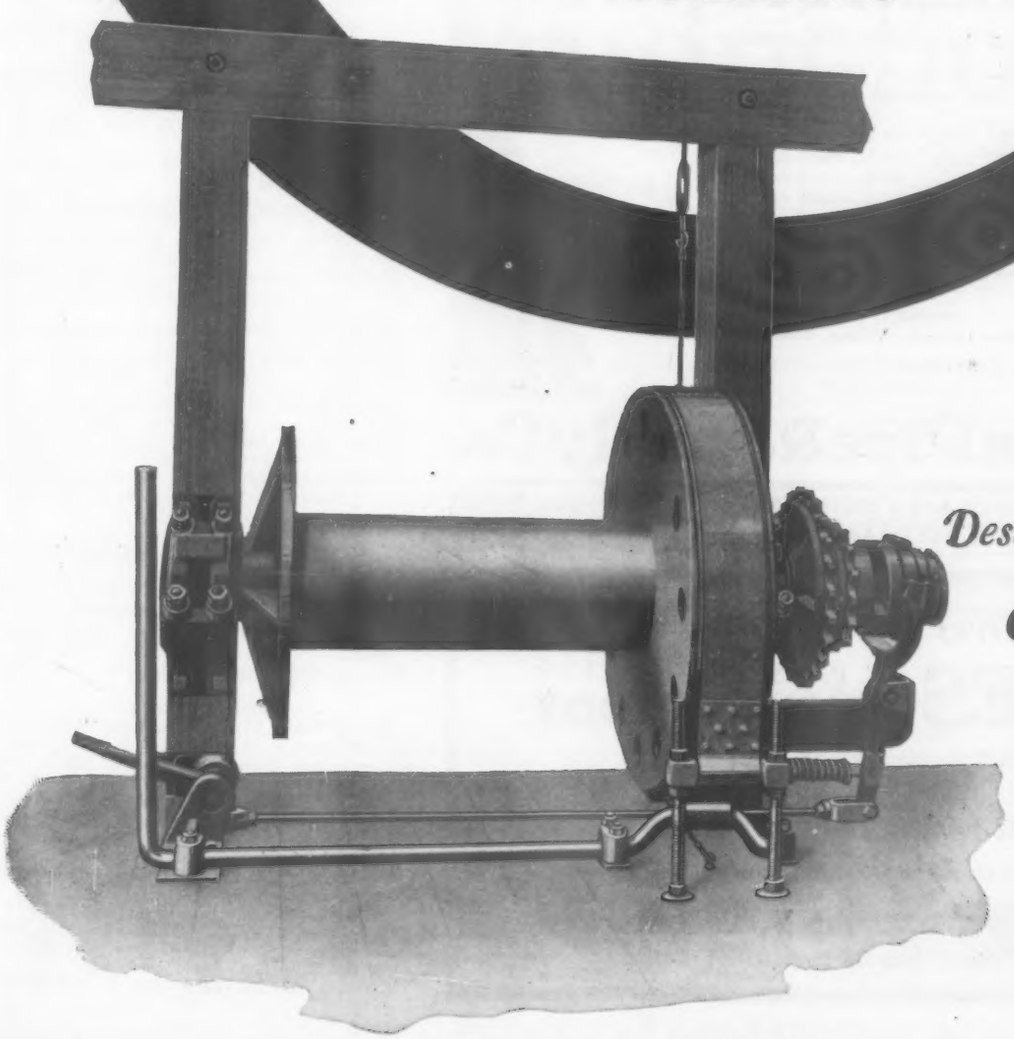
COMANCHE COUNTY—T 4n, R 11w, Sec. 2, Wirt Franklin's Hollow 1, nw cor, show gas 1446-63 ft, dr 1808 ft.

JACKSON COUNTY—T 1n, R 20w, Sec. 4,

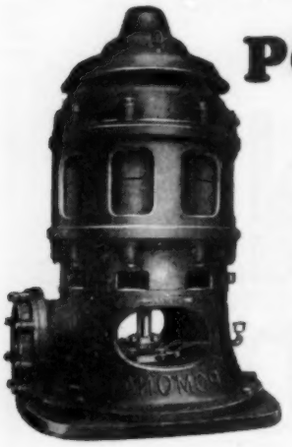
NATIONAL TUBING HOIST

Type "BJ"

THE NATIONAL SUPPLY COMPANIES



Descriptive Bulletin No. 14N. On Request



POMONA PUMPS

for every pumping service

There is a design and size to fit every pumping condition anywhere on earth. The extremely wide latitude of service, efficiency and constancy of Pomona Pumps assure dependable performance at all times, under all conditions, everywhere.

Write us about your pumping problems. Our Pomona Engineers will solve them for you.

SOUTHERN ENGINE and PUMP COMPANY

HOUSTON, TEXAS

POMONA — Oceans of Water — PUMPS

BUY OR RENT USED PIPE

and Save the Difference

We have the following pipe in Oklahoma that was purchased new and used in one well:

475′	5½″	70-lb. used casing
1000′	12½″	50-lb. used casing
2200′	10″	40-lb. used casing
2000′	8″	32-lb. used casing
3800′	6⅝″	24-lb. used casing

We will rent this casing or any other pipe which you may need. Let us finance your operations by carrying your pipe and casing investment for you.

BRANCH STORES
Wichita Falls, Holliday, Vernon, Breckenridge, Texas

EASTERN HEADQUARTERS
Butler, Penna.

Keystone Pipe & Supply Co.

HOLMES BUILDING
FORT WORTH, TEXAS

There is Over 3,000,000 Feet of

JONES A. P. I. SPECIFICATION **SUCKER RODS**

Now In Use

"High Manganese" RODS

Made in Both Box and Pin and Double-Pin Types

S. M. JONES COMPANY, Toledo, Ohio

TULSA OFFICE: 422-423 McBIRNEY BLDG.

Houseman et al's Northington 1, ne cor, sd 2020 ft.

KIOWA COUNTY—T 1n, R 17w, Sec. 13, Allen Bros.' Howell 1, nw cor se, dr 400 ft.

STEPHENS COUNTY—T 1n, R 7w, Sec. 2, Stahl & Burris' Jefferson 1, se cor ne nw, fsh 2600 ft.

JACKSON COUNTY—T 1s, R 20w, Sec. 33, Stanley McGregor's 1, sw cor nw sw, sd 2425 ft.

STEPHENS COUNTY—T 1s, R 7w, Sec. 12, Ilsing, Russell & Nance's Hopston 1, ne cor sw sw, fsh 1933 ft.

KIOWA COUNTY—T 2s, R 16w, Sec. 6, Landfair's 1, se cor sw se, dr 2535 ft.

TILLMAN COUNTY—T 3s, R 18w, Sec. 29, Dixie Oil Co.'s Harrison 1, ne cor nw, dr 1227 ft.

COTTON COUNTY—T 3s, R 10w, Sec. 11, E. J. Stumpf's Jones 1, nw cor ne, lcn.

STEPHENS COUNTY—T 3s, R 8w, Sec. 26, E. J. Stumpf's Simon 1, sw cor, rig.

COTTON COUNTY—T 4s, R 12w, Sec. 16, Guiler & Pyson's Thomas 1, se cor sw, show oil and gas 1252-54 ft, sd 2127 ft.

JOHNSTON COUNTY—T 1s, R 7e, Sec. 29, Smithy & Kinsley's Lane 1, se cor nw, sd 1306 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Texokla Drlg. Co.'s Anderson 1, se ne se, spudded and sd. T 5s, R 3w, Sec. 19, Devonian Oil Co.'s Myer 1, nw cor se, rur.

BRYAN COUNTY—T 9s, R 9e, Sec. 36, W. G. Endicott's Craig 1, c nw ne, fsh 830 ft.

SOUTHERN CALIFORNIA

BELLFLOWER—Dollar Oil Co.'s Blythe 1, dr on junk, td 2925 ft.

CALABASAS—Easton and Smith's Morrison 1, 19-1-17, sd 2955 ft.

CHATSWORTH—Russell Pet. Co.'s Joughin 2, dr shale 765 ft.

COSTA MESA—Mesa Pet. Corp.'s B. and A. 1, dr hard sand 3400 ft.

DOWNEY—Associated's Taylor 1, 33-2-12, dr gray sand 5540 ft. Rio Grande Oil Co.'s Adams 1, 34-2-12, rig.

GARDEN GROVE—The Texas Co.'s Crawford 1, 35-4-10, dr sand 3000 ft.

HUNTINGTON BEACH—Western Drilling and Producing Co.'s 1, 18-6-10, dr 4000 ft.

INGLEWOOD—Ring Pet. Co.'s Simons 1, rig skidded to new lcn. California Eastern Oil Co.'s 1, dr shale and sand 1566 ft.

MAYWOOD—Richfield Oil Co.'s Community 1, 13-2-13, dr 750 ft.

MONTEREY PARK — Monterey Park Pet. Co.'s Jepson 1, sd 3950 ft.

NEWHALL — California Eastern Oil Co.'s Hasley 1, 5-4-17, dr shale 2875 ft.

POMONA—Pomona Oil Assn's Community 1, dr 977 ft.

PUENTE—Anchor Pet. Co.'s Hudson 1, plugged to 3700 ft, sd. Richfield's Didier 1, dr brown shale 3060 ft.

RIVERA—Empire Drilling Co.'s Purman 1, 14-2-12, dr gray sand 5120 ft.

SAN FERNANDO—Shell's Mission 2, cmt. 6⅝-inch cas 4320 ft, td 5690 ft.

RIVERSIDE COUNTY — Hall Pet. Co.'s Watt 1, 23-7-3, dr shale 980 ft. Spindletop Oil and Gas Synd.'s Salton 1, sr 3260 ft, td 3460 ft.

SAN BERNARDINO COUNTY — Western Pacific Oil Co.'s No. 3, dr shale 3260 ft.

SAN DIEGO COUNTY—S. S. Turner's Baler 1, dr hard sand 1600 ft.

NORTHERN CALIFORNIA

Completions

Company, Well and Location		Initial Production Bbls.	Depth
PIRU—			
Petroleum Securities Co.'s Diablo 1..	*		6510

KERN COUNTY

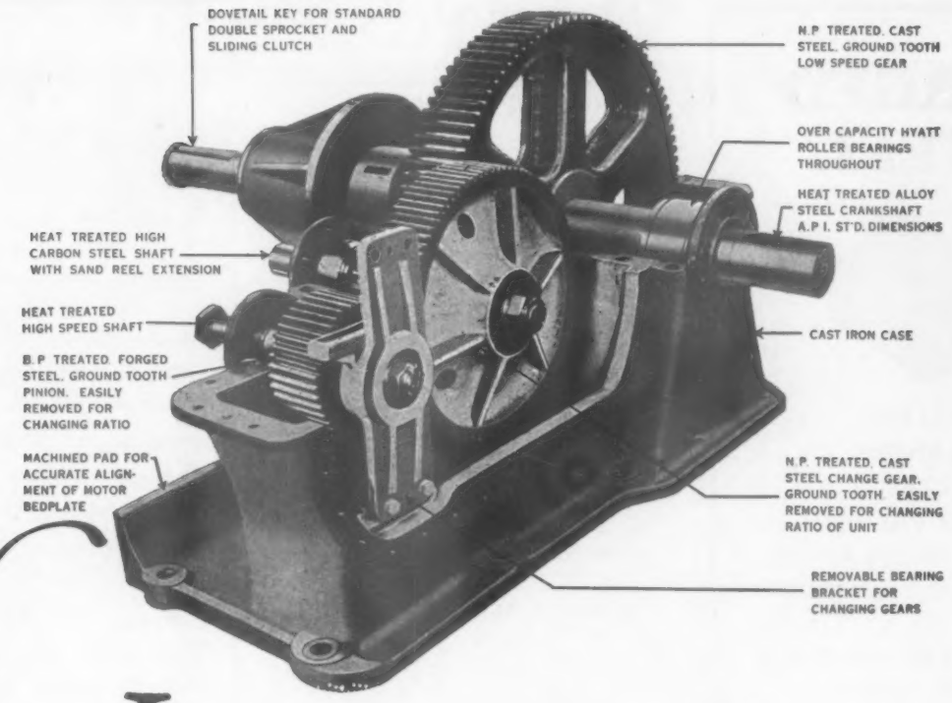
BUTTONWILLOW — Milham Exploration Co.'s Wisnom 1, 16-28-23, sd 4500 ft. Doheny-Stone Drilling Corp.'s Salisbury 1, 7-29-24, fsh for casing, td 4630 ft. Lincoln Drilling Co.'s 1, 6-28-23, new lcn. Southern California Gas Co.'s 1, 10-28-23, lcn; Wisnom 1, 27-28-23, lcn.

COMANCHE POINT—W. W. Stabler's 1, 23-32-29, dr shale 2950 ft.

DELANO—S. A. Deizel's Vedder 1, 4-26-27, co 3100 ft.

EDISON—General Pet. Corp.'s Seale 10, 5-30-29, dr sand 3200 ft. Midway-Northern Oil Co.'s Brown 1, 29-29-30, dr shale 3785 ft. Cymark Oil Co.'s 1, 24-29-29, new lcn.

GOULD HILLS—Elmer Oil Co.'s 1, 2-29-


DOVETAIL KEY FOR STANDARD DOUBLE SPROCKET AND SLIDING CLUTCH
N.P. TREATED, CAST STEEL, GROUND TOOTH LOW SPEED GEAR
OVER CAPACITY HYATT ROLLER BEARINGS THROUGHOUT
HEAT TREATED ALLOY STEEL CRANKSHAFT A.P.I. ST'D. DIMENSIONS
HEAT TREATED HIGH CARBON STEEL SHAFT WITH SAND REEL EXTENSION
HEAT TREATED HIGH SPEED SHAFT
CAST IRON CASE
B.P. TREATED FORGED STEEL, GROUND TOOTH PINION, EASILY REMOVED FOR CHANGING RATIO
MACHINED PAD FOR ACCURATE ALIGNMENT OF MOTOR BEDPLATE
N.P. TREATED, CAST STEEL CHANGE GEAR, GROUND TOOTH, EASILY REMOVED FOR CHANGING RATIO OF UNIT
REMOVABLE BEARING BRACKET FOR CHANGING GEARS

for Increased Production!

PUMPING equipment must perform consistently—day in and day out—to keep production above the average. It must have the dependable operating characteristics and power of endurance to meet the strenuous requirements of oil fields.

Westinghouse-Nuttall double-reduction oil well units, manufactured by R. D. Nuttall Co., Pittsburgh, Pa., are designed and applied to meet the severest tests of service. The fact that the prime mover (electric motor, gas or oil engine) is directly connected to the high speed shaft through a flexible coupling assures uninterrupted service. The cumbersome band wheel, and all the attendant driving equipment, including belts, chains and countershafts are eliminated. It provides a direct, positive drive of the highest efficiency.

Double reduction units can be fitted with either plain, balanced or counter-balanced cranks and have the exclusive "change gear" feature which allows the pumping speed to be easily and quickly varied right in the field.

Further information can be secured from any office or branch of the Oil Well Supply Company, or from any of the district offices of the Westinghouse Electric & Manufacturing Company. Send for a set of our Oil Well Bulletins.

Oil Well Supply Co.
Authorized Distributors

Westinghouse — Nuttall

T 30018

FORGED STEEL

VALVES
FLANGES
FITTINGS
ACID VALVES
NEILAN REGULATORS
TYCOS INSTRUMENTS
CAST STEEL FITTINGS
UNITED AIR CLEANERS
TUBE-TURNS

Shipments from Houston Stock

Maintenance Engineering Corp.

W. J. Peddie, *Pres.*
1400 Conti St. Preston 2274-5
HOUSTON, TEXAS

HAVE YOU
RESOLVED
To Know More About
Geological Structure ?
Read
Continental Drift

THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS has just issued an entirely new book of special papers presented at the New York meeting by geologists of international reputation in the petroleum industry and university circles. Fourteen authors discuss fundamentals of structure of the earth's crust in "THEORY OF CONTINENTAL DRIFT." Application to problems of petroleum geologists indicated in foreword by E. DeGolyer, President Amerada Petroleum Corp. Leading paper by W. A. J. M. van der Gracht, Vice-President Marland Oil Co.

240 pp., 29 figs., 6x9 in. Cloth. Price, $3.50, postpaid. Address: American Association of Petroleum Geologists, Box 1852, Tulsa, Oklahoma.

20, 10-inch cas cmt 1100 ft. Exeter Oil Co.'s Pray 2, 1-29-20, co 875 ft.

SHALE HILLS—M. M. Young's 1, 6-27-19, new lcn.

RIO BRAVO—Pacific Coast Oil Co.'s 1, 15-19-25, rigging up rotary. Elmer Oil Co.'s 1, 8-28-25, dr sandy shale 5075 ft.

SAN EMIDIO—Standard Oil Co.'s KCL-6, sdtr dr pipe 3775 ft. Union's KCL-1, 5-10-21, dr 1400 ft.

SEMITROPIC—Richfield's Kerwin 1, 21-26-22, sr 4755 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Continental's Franklin, rig collapsed, td 3350 ft.

GOLETA—Fissher Pet. Co.'s Rekar 1, 8-4-29, dr red shale 2727 ft.

ORELLA—Shell's Rutherford 1, 36-5-31, dr sand 665 ft.

POINT ARQUELLO—Standard's Schyvers 1, dr 250 ft.

POINT CONCEPCION—Standard's Gerber 1, new lcn.

SANTA BARBARA—Channell Oil and Development Co.'s 1, 29-4-27, deepening from 6300 ft.

SANTA MARIA—Shell's U. S. 1, 36-10-35, new lcn, bldg rig.

VENTURA COUNTY

BARDSDALE — Triple A. Investment Co.'s Elkins 1, 28-4-19, pumping oil and water, td 2950 ft.

CAMARILLO—American Oil Co.'s 1, 33-2-20, dr rock 650 ft.

OJAI—Continental's Fox 1-M, 21-4-22, dr shale 3065 ft; Thompson 1, 22-4-22, dr shale and sand 3122 ft. E. J. Miley's Casitas 2-A, co 775 ft. Rancho Riva Oil Co.'s 8, 28-4-23, fsh 250 ft.

PIRU—Bolsa Chica Oil Corp.'s Hidden 1, 5-4-18, bldg rig. Rio Grande Oil Co.'s B. B. N. 1, 13-4-19, co 2000 ft, td 2150 ft. Wasibi Oil Co.'s Bishop 2, 34-3-19, dr hard sand 2810 ft.

SANTA PAULA—W. W. Bryant's 3, 21-4-21, dr shale and sand 700 ft. San Pedro-Pt. Fermin Synd.'s Kellerman 1, 13-4-21, dr gray sand 705 ft.

SATICOY—Standard's Citrus 5, 10-2-22, dr hard sand 4000 ft. Ohio Oil Co.'s Alexander 1, dr shale 4500 ft.

SIMI—Emma F. Exline's Seaton 1, 32-5-21, fsh for dr pipe 2415 ft. Shell's Marr 1, 31-3-17, dr shale 500 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, 3-3-21, trying to loosen 4¾-inch casing td 4840 ft.

MISCELLANEOUS

FRESNO COUNTY—Currency Pet. Co.'s 1, 28-21-14, dr shale 625 ft. Ellesby and Justice's 1, 27-19-19, sd 1000 ft. Fresno-Madera Oil Co.'s 1, 18-12-21, dr gray sand 4166 ft.

SAN LUIS OBISPO COUNTY—North Star Oil Co.'s 1, 11-22-28, dr shale 2805 ft. Panorama Oil Co.'s 1, 7-31-21, dr shale 3275 ft. T. H. Turman's 1, 13-32-22, lcn. Union's 1, 34-32-15, sdtr iron 3180 ft; Chandler 1, 12-32-15, dr shale 2855 ft.

SONOMA COUNTY—Shell's Doss 1, 29-5-6, dr gray sand 2140 ft.

SAN MATEO COUNTY—Shell's Butts 1, 21-5 -, dr sand 3377 ft.

TULARE COUNTY—Angiola Dev. Co.'s 1, 27-22-23, dr 825 ft. Kings-Tulare Synd.'s 1, 19-21-23, dr brown shale 5700 ft.

NORTH LOUISIANA

Completions

RED RIVER PARISH—
Rock Pet. Co., Pierson 1, 12-14-11 .. 25 1761

WEBSTER PARISH—
Magnolia Pet. Co., M. Branton 1, 5-22-11 . .....¶5½ 2639

BIENVILLE PARISH—W. G. Gray, Tr.'s Johnson 1, 21-18-6, dr 2530 ft. W. P. Wallace's Ashley 1, 15-16-10, dr 1850 ft.

BOSSIER PARISH—Big Ben Oil Co.'s Stewart 2, 15-18-12, sd 1300 ft. Doern et al's Bolinger 1, 9-22-11, sd wo 4313 ft. Nell & Lanier's Biedenharn 1, 23-21-14, lcn. Walker et al's Antrim 1, 28-22-13, sd wo 2985 ft. Ark. Nat. Gas Corp.'s Tidwell 1, 29-22-11, rig up.

CADDO PARISH—D. C. R. Oil Co., Inc.'s Hunter Est. 1, 17-19-14, lcn.

CATAHOULA PARISH—Lochnager O. & G. Co.'s Taliaferro 1, 26-9-6e, sd 900 ft.

CLAIBORNE PARISH—Smitherman & McDonald's Miller 1, 17-23-8, cemtd 6⅝-in cas 4190

GENERAL MANAGER

WANTED, to assume entire charge of company's field operations, man thoroughly experienced in Appalachian fields. Must have had responsible charge of drilling, production and operation.

Company is increasing its production from its present fee-owned proven properties.

Compensation will be very attractive for the right man.

Replies will be confidential. They must state age, experience in detail, education and training, and must give responsible references. Technical education useful but not indispensable. Box 750, c-o Oil Weekly, Houston, Texas.

Treat CUT OIL *with* TRET-O-LITE

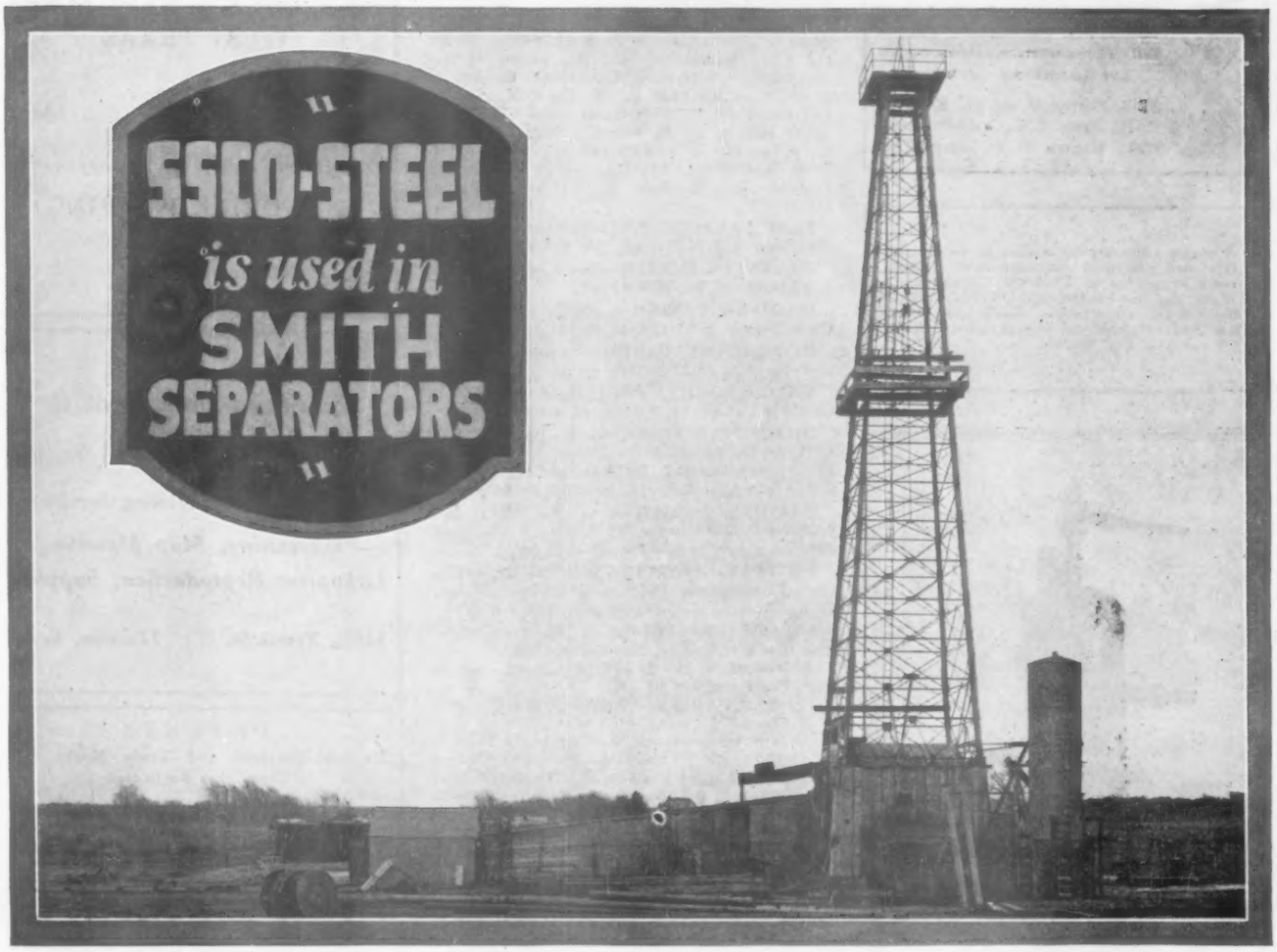
the SIMPLEST MOST ECONOMICAL MOST RAPID METHOD

The Tret-O-lite Process is a fundamentally simple and direct method of correcting the chemical condition present in "cut oil". Treatment with Tret-O-lite causes the petroleum and water to separate *quickly* and *completely*. Cost of treatment is exceedingly low. Let us send our nearest field expert to see you.

Process Patented

WM. S. BARNICKEL & CO.
St. Louis, Mo.
Offices and Plant:
Webster Groves, St. Louis County, Mo.

"IF IT'S WORTH DRILLING FOR IT'S WORTH SAVING"



Smith Separator Type No. 10 I. T. I. O. Company's No. 1, Section 24-11-3w, Oklahoma County, Oklahoma

When prospecting for new fields the Best Equipment Obtainable is considered necessary from the standpoint of Economy and Efficiency. And, Smith Separators are considered by the Leading Operators as Standard Equipment for handling production under extreme conditions.

The above Separator has already experienced long service and has returned the Producer large dividends, in the Seminole Field, before being transferred to protect the new development in the vicinity of Oklahoma City. The service rendered by this separator is a further testimonial that the Best Quality of Material and Workmanship obtainable is the cheapest in the end.

Smith Separator Tanks are constructed of "SSCO-STEEL"—the Valves of "FISCO METAL" and performance over a long period of years has proven their ability as to Efficiency, Durability, and Safety.

Operators feel content when they know their wells are Smith Separator-Equipped, whether located in Domestic or Foreign Fields.

SMITH SEPARATOR COMPANY

Tulsa S *Okla.*

HOUSTON FORT WORTH SHREVEPORT LOS ANGELES

Export Office

Oilfield Equipment Co., 30 Church St., New York, N. Y.

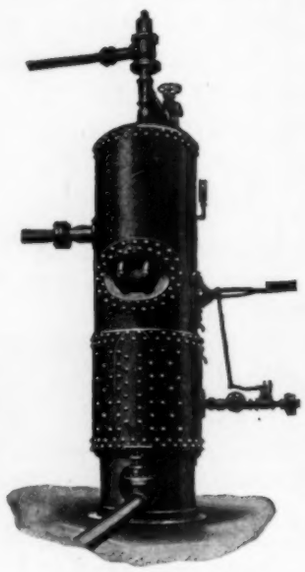
Say you saw it in The OIL WEEKLY

THE FT. WORTH LABORATORIES

Field Gas Testing. Analysis of oil field brines, gas minerals and oil. Bell Thermometers, Hydrometers and Laboratory Glassware

F. B. Porter, B. S., Ch. E., Pres.
R. H. Fash, B. S., Vice-President
828¼ Monroe St. Ft. Worth, Tex.

A major oil company wishes to employ a Graduate Electrical Engineer with a few years experience in Electrical Construction Work and in Electrifying Oil Field Production and Pipe Lines. Prefer man who has had oil production experience. Box 75 c-o The Oil Weekly.



High Pressure Separators are sometimes necessary under unusual conditions.

Our experience in the high pressure separation field enables us to offer you a service that may be of assistance to you in some of your separation problems.

Trumble Gas Trap Company

756 Subway Terminal Building
LOS ANGELES, CALIF.

TULSA
C. F. Camp, 221 East Archer St.
ALBERTA, WYOMING and MONTANA
Great Northern Tool & Supply Co.
Billings, Montana

VENEZUELAN REPRESENTATIVE
Johnson & Schnitter
Apartado 324
Maracaibo, Venezuela

ft. Dixie Oil Co.'s Gilbert 1, 27-21-5w, coring 4412 ft. El Dorado Chief Oil Co.'s Baker 1, 26-20-7, sd 2092 ft.

DE SOTO PARISH — Benedum & Trees' State 1, 22-14-12, arr to swab td 2633 ft. Thorn Oil Co.'s Burford 1, 22-14-14, cemtd 12½-in cas 160 ft. Warren & Carruthers' Ramsey 1, 33-13-16, sd wo 2325 ft. R. O. Roy's Sample 1, 1-13-14, rig up. Whittaker 1, 4-13-13, tested sw at 2888 ft, arr to deepen. Benson O. & G. Co.'s Jackson 1, 3-10-13, rig up. Luke Case, Tr.'s Boatright 1, 3-10-13, sd 1810 ft. Carlton Drilling Co.'s Stephens 2, 12-11-16, temp abn 350 ft.

EAST CARROLL PARISH—Palmer Corp.'s Mitchiner 1, 8-19-11e, set 8-in cas 878 ft.

FRANKLIN PARISH—Davis et al's Moore 1, 12-11-6e, sd wo 1000 ft.

MADISON PARISH — Mid-American Pet. Co.'s Yerger 2, 51-16-14e, sd 285 ft.

MOREHOUSE PARISH—Woodley & Collins' Harp 1, 23-22-7e, lcn.

NATCHITOCHES PARISH—Robeline O. & G. Co.'s Cassady 1, 7-8-9w, sd wo 1100 ft.

OUACHITA PARISH—G. E. Jordan's Wall 1, 12-18-3e, sd 3347 ft. Ouachita Nat. Gas Co.'s d'Arbonne B-2, 25-19-2e, sd 3349 ft. Phillips et al's School Fee 1, 16-16-10, dr 2495 ft.

RAPIDES PARISH — G. E. Silbertson's Willemach 3, 13-5n-4w, sd 2250 ft. Glenmore Pet. Co.'s Fee 1, 1-2n-2w, sd 3850 ft.

RICHLAND PARISH—Richland Operating Co.'s Chapman 1, 19-16-7e, dr 50 ft. Wilson et al's Buie 1, 17-15-7e, lcn abn, will not dr.

SABINE PARISH—W. J. Garnier's Bowman-Hicks 1, 16-7-12, lcn (correct) R. L. Gay, Tr.'s Bowman-Hicks 2, 14-7-14, rig up. Sabine Lbr. Co. 1, rig up.

TENSAS PARISH—Enochs et al's Curry 1, 39-11-12e, sd 3583 ft.

UNION PARISH—G. E. Carmatte's Tugwell 2, 21-22-1e, dk. Carter & Wingfield's Clark A-3, 8-23-1e, dk. Hudson 2, 7-23-1e, sd 2190 ft. Hudson 3, 7-23-1e, sd wo 2278 ft. Security Trust 2, 7-23-1e, lcn. H. C. McDonald's Union Sawmill 2, 18-23-1e, sd wo 1500 ft.

WEBSTER PARISH — Robert Elmore's Mitchell 1, 31-23-9, cemt 6-in cas td 2604 ft. Jones et al's Elkins 1, 33-23-9, temp abn 2690 ft. Magnolia Pet. Co.'s H. H. Branton 1, 5-22-9, cemt 8⅛-in cas 2679 ft. M. Branton 1, 5-22-9, half million cu ft gas td 2639 ft. Harry Morris' Lewis 1, 15-23-9, sd wo 2902 ft. Northwest La. Gas Co.'s Pinewoods Lbr. Co. 9, 37-23-11, cemtd 6-in cas td 2694 ft. Magnolia Pet. Co.'s Scroggins 1, 22-11-11, bailing oil and sw td 2709 ft.

EAST TEXAS

BOWIE COUNTY—Hooks O. & G. Co.'s Rosenberg 1, King sur, temp abn 3086 ft.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd wo 1978 ft.

CASS COUNTY—Davis & Pigg's Ed Lambert sur, temp abn td 1952 ft.

RED RIVER COUNTY—D. M. Buffington's Hoosier 1, Hughart sur, sd 1080 ft. Shad Harper's Garland 1, Jos. Wagley sur, sd wt fuel 1509 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, temp abn 1425 ft.

SHELBY COUNTY—Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 2700 ft. Gulf Ref. Co.'s Caraway 1, Patterson sur, dr 582 ft.

UPSHUR COUNTY—F. S. Freeland's Newsom 1, Butler sur, arr d.s. test 2020 ft. Hudspeth 1, Jackson sur, dk pat.

McCollum Exploration Company

Contracts taken for Seismograph Work

UNITED STATES
5322 Connecticut Ave.,
WASHINGTON, D. C.

FOREIGN COUNTRIES
1211 Esperson Bldg.,
HOUSTON, TEXAS

HEYDRICK'S NEW MAPS
WEST TEXAS

County Maps
Combination Maps

Descriptions and prices on application

HEYDRICK MAPPING COMPANY
Wichita Falls, Texas

Southern Blue Print & Supply Co.

Complete Blue Printing Service

Photostating; Map Mounting
Lithoprint Reproduction; Supplies

510½ Travis St. Houston, Texas

PATENTS
Patents Obtained and Trade Marks and Copyrights Registered
HARDWAY & CATHEY
428-29-30 Bankers Mortgage Bldg.
Phone Preston 4790 Houston, Texas

JOHN F. WEINZIERL
CONSULTING GEOLOGIST
ADVISOR ON GEOPHYSICAL INSTRUMENTS
619 Petroleum Bldg., Houston, Texas

HIRSCH, BROWN AND SUSMAN
Attorneys at Law
Bankers Mortgage Building,
Houston, Texas
Specializing in Oil Law and Land Law

PHILLIP MAVERICK
PETROLEUM GEOLOGIST
Rust Bldg.
SAN ANGELO, TEXAS

PATENTS
Patents Obtained, Trade Marks, Patent Causes
JESSE R. STONE
Formerly Assistant Examiner United States Patent Office
Andrews, Streetman, Logue & Mobley
12th Floor Union N. Bk., Houston, Texas

TEXAS SAND & GRAVEL CO., Inc.
Waco, Colorado and Amarillo, Texas
Washed and Screened Gravel and Sand, Pea Gravel, Dredged Pit run Gravel, Road Gravel, and railroad ballast.
Home Office:
1904 Amicable Bldg.,
Waco, Texas
Phone 4467 and 4468
Plants:
Waco Tascosa
Texland Ady
Colorado Saragosa
SERVING ALL THE TEXAS FIELDS

45 wells cemented in 14 hours in the Seminole District. Only an established organization can be depended upon when an emergency arises.

HALLIBURTON
OIL WELL CEMENTING COMPANY
DUNCAN, OKLAHOMA

Say you saw it in The OIL WEEKLY

Engineering Report On Seminole Oil Field, Oklahoma

A PRELIMINARY engineering report on the Seminole field, Seminole County, Oklahoma, has just been published by the United States Bureau of Mines, Department of Commerce, in cooperation with the State of Oklahoma. The application of modern air-lift methods in this pool, while tremendously increasing the percentage of recovery of oil, flooded the market and resulted in an economic loss to the industry, the bureau points out.

The Seminole pool, sometimes referred to as the Seminole City, pool, should not be confused with the Greater Seminole field, which includes Seminole City, Earlsboro, Searight, Bowlegs and Little River. A final report, covering in detail the engineering problems that apply to the production and conservation of petroleum and natural gas in the entire Seminole area, will be issued by the Bureau of Mines at a later date.

The Seminole pool is located in the northwest central part of Seminole County. The center of the pool is approximately one mile east of the city of Seminole, from which the pool derives its name. The pool is four miles long and has a maximum width of one and nine-tenths miles.

Early drilling in the Seminole field dates back to 1923 when the W. B. Pine, Henry 1, in Section 22, was abandoned at 3685 feet after losing the hole. The first well to secure commercial production from the Wilcox sand, the big pay sand of the pool, was Fixico 1, of the Independent Oil & Gas Company and R. F. Garland, in Section 26.

Completion of this well in July, 1926, started intensive operations, and production by November exceeded transportation and storage facilities. The rate of production increased so rapidly that the operators, fearing a waste of oil, agreed on a 30-day curtailment program which prorated pipe line runs and allowed only direct offsets to be drilled into the sand. The curtailment program allowed pipe lines and storage construction to gain such a lead that afterwards this capacity was never seriously threatened by production from the Seminole pool. Production, however, continued to increase, and on February 22, 1927, the pool reached its peak production of 265,000 barrels.

The bringing in of the Earlsboro pool and Bowlegs pool complicated conditions at Seminole, and several price reductions followed in rapid succession. Further curtailment was proposed, and the program was extended to include the entire Seminole area. Production, however, continued to increase because of the increased rate of recovery resulting from the application of the air-gas lift. Only direct offsets were allowed to be drilled into the sands; new discoveries were pinched to 100 barrels daily; and shooting was allowed only in wells which were offset by wells that had been shot. During the latter period the Seminole pool, although declining in production, was also affected by the proration program which had been applied to all fields in the Seminole area.

The subsurface structure of the Seminole pool is one of the most complicated structures found in any pool in Oklahoma. The dominant features are the close association of structural highs and structural depressions, their relation to folding and faulting, and their relation to the accumulation of oil and water. Wells spaced 660 feet apart have differences in subsurface elevations as great as 500 feet. As the thickness of formation above and below the productive sands is fairly constant over both structural highs and structural depressions, it is difficult to determine where folding ceases and faulting begins.

Several horizons in the Seminole pool contained oil and gas, but so far only two of these have proved commercially productive. The upper Wilcox sand has been the big pay sand of the Seminole pool. Due to the irregularity of underground structure, the sand has been extremely variable in productivity. The structural highs have produced most of the oil obtained.

Further testing may prove that some of the upper sands are commercially productive. In most cases these sands were drilled with rotary tools, and the mudding operations necessary with this method of drilling tend to obscure to some extent the evidence of productivity. No attempts were made to test the sands above the known productive zones.

The complex structure and the use of the air-gas lift has added to the water troubles in the Seminole pool. The use of air has increased corrosion problems; also, the air-gas lift has resulted in an increased rate of production, which may have in-

(Continued on page 102)

C. & G. Cooper Company Near Century As Engine Builders

THE present success of the C. & G. Cooper Company, Mount Vernon, Ohio, is founded on 95 years of progressive growth. The ninety-fifth milestone of this company's business was passed recently, with the concern's history dating back to the initial organization, established by Charles and Elias Cooper in the fall of 1833, a crude affair, with a capacity of 500 pounds daily.

These builders of gas engine driven compressors, gas engines, and Diesel oil engines were in the business of making plows, stoves and sap kettles then. They called it one one-horse power plant then because the outfit, consisting of an upright wooden shaft fitted with bevel gears of wood, was propelled by a horse; also due to the sale of a horse for $50, enabling the initial purchase of crude equipment for erecting the first cupola.

In 1852 the company, then Cooper & Clark, following the coming of T. L. Clark into the company after Elias Cooper's death in 1848, built its first blowing engines. The present use of one of these engines, after 75 years, serving as a charcoal iron furnace at Oak Hill, Ohio, is an example of the class of workmanship put into their products in the early life of the company. John Cooper, brother of the founders of the company, joined the partnership in 1852, changing the company to Cooper & Clark. Spreading of the company's work to include the making of locomotives followed his coming.

One of the leading early steps in the progress of the company was the beginning of construction of Corliss engines shortly after reorganization in 1865. The fast growing demand at that time for Corliss engines made it the chief product of the company. The outstanding stage in the company's development, however, came in 1895, when the concern underwent several changes in personnel. It was then that the business was incorporated under its present name. B. B. Williams, now president, was assistant secretary under the original C. & G. Cooper Company, growing in 1895 out of the company founded in 1833. The growth of the company since 1895, in personnel, equipment to meet new demands and lines of equipment produced, has been consistent to the present time.

Of particular interest in the personnel of the C. & G. Cooper Company is the retaining of the original blood in the organization from its beginning, while the working force has grown from two to more than 800 employes. B. B. Williams' father-in-law was president of the company before him. J. H. Debes, chief engineer, is the son of the designer of the first Cooper Corliss engine, and C. G. Cooper, president of the company from 1912 to 1919, was the son of Elias Cooper, one of the two founders of the company.

The minimum labor turnover in this 95-year-old concern is evidenced by the company's membership in its Twenty Year Club, numbering 130 men of that period of service.

Accompanying illustrations list the executive personnel of C. & G. Cooper Company today:

Officials of The C. & G. Cooper Company.

Photo by Balbrach.

B. B. WILLIAMS
President and General Manager

F. H. THOMAS
Vice President in charge of Sales

Z. E. TAYLOR
Secretary

H. A. GEHRES
Chief Engineer

N. L. DANEY
Treasurer

Photo by Alvin C. Krupnick
J. L. SHAKELY

ROBERT McCOY, JR.

Photo by Alvin C. Krupnick
O. A. GRIFFEY

The recent consolidation of Frick-Reid Supply Company and Frick and Lindsey into the Frick-Reid Supply Corporation resulted in several changes being made in the executive personnel of the Western division in Tulsa. J. L. Shakely now is executive vice president and Robert McCoy, Jr., is in charge of sales and stores. O. A. Griffey is credit manager.

Engineering Report on Seminole Oil Field, Oklahoma

(Continued from page 100)

tensified water coning. Because of the above conditions it is difficult to determine the water table of the pool.

Parts of the Seminole pool showed a rapid encroachment of water, whereas other parts are still producing clean oil. Of a total of 319 producing wells 122 were making water on December 31, 1927. Included in this figure, however, are wells around the edge of the pool which were originally drilled into water and never successfully plugged. Considering the age of the pool and the rapid rate of oil extraction, it is believed that the rate of water encroachment was normal in comparison with the rate of encroachment in other pools where the usual production methods—natural flow, swabbing, and pumping—have been used. The northeast part of the pool, however, is an exception to this general condition.

Oil samples were gathered from the productive horizons of the pool and analyzed at the Bureau of Mines Experiment Station, Bartlesville, Oklahoma. The similarity of the oils suggested a common origin for the oil in this pool.

The outstanding methods of production in the Seminole pool relate chiefly to the application of the air-gas lift. Natural flow, generally the first method of production used, was followed by the air-gas lift, and it in turn was followed by pumping and swabbing. When high fluid levels were prevalent, and initial pressures were insufficient to cause natural flow, the air-gas lift was applied at once. In a few wells the air-gas lift was applied before natural flow ceased.

The various methods of air-gas lift application and the effects of the air-gas lift on rate of production, ultimate production, physical characteristics of the oil, gas-oil ratios, water conditions, productive sands, and production costs have been watched with intense interest by the petroleum industry. The problems of natural flow and pumping have also been of special interest.

Five methods of lift application were used in the Seminole pool. These were flow through casing; flow through tubing; flow through tapered tubing; intermittent flow; and intermittent flow through tapered tubing. The value of each method lay in the purpose for which it was applied. As greater quantities of oil could be raised during the flush stage of development by flow through the casing, this method was used almost to the exclusion of the others. When production had declined and the reservoir pressure had decreased, this method became less efficient and other methods were applied to increase the efficiency of flow from the well. The general effects of the lift on oil and gas production and reservoir pressure have been largely due to the intense application of the first method.

The value of the air-gas lift depends upon the purpose for which it is applied. The primary purpose in applying the lift in the Seminole pool, was to increase daily production, and its success in that respect is unquestionable. The increased rate of production, however, contributed largely to economic depression throughout the industry. The rate of production, then, would seem to be an economic question rather than an engineering problem imposed by the use of the lift. The reduced price of crude oil more than offset any gain derived from increased production. The lift as applied in the Seminole pool has not been an economic success.

Although the increased rate of production has been unwarranted, the method by which it was increased, lift application, has demonstrated a better means of regulating the pressure on the productive sand. The results indicate that with proper application of the lift an increase in ultimate production would be obtained over that of the normal methods—natural flow and pumping. Operators are striving to improve production methods for the purpose of increasing ultimate recovery. Effective control of reservoir pressures will accomplish this purpose. Effective pressure control is indicated by gas-oil ratios. These were lower than in other methods of production during the early stages and slightly higher during later stages of lift application. The slow rate of water encroachment in certain highly productive areas where the lift was used is indicative of effective pressure control. Pressure regulation will accomplish two very important results in production problems: it will utilize to the fullest extent possible the energy contained within the reservoir gas; and it will retard the rate of water encroachment.

The gas lift is not a cure for all production evils, but where effectively operated it has the following advantages:

Regulates the rate of production.

Offers a means of effective pressure regulation.

Conserves formation gas.

Retards water encroachment.

Increases ultimate production.

Decreases the time of obtaining ultimate production.

Decreases lifting costs.

Offers a means for operation of deep wells where other methods fail.

Increases the rate of gasoline recovery over other methods.

In summarizing, it can be said that the gas lift has not been most effectively operated in the Seminole pool.

"Favorite of the Oil Fields"

UNRIVALLED for SERVICE

FENWICK-REDDAWAY MFG. CO.

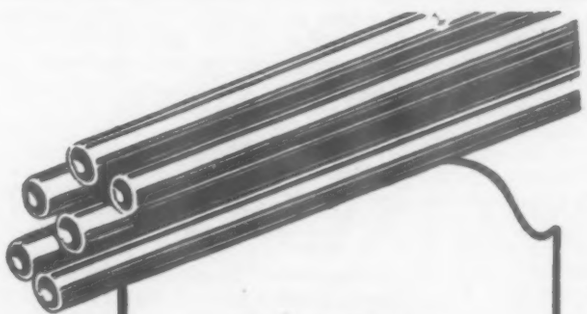
Newark, N. J.

CAMEL'S HAIR, COTTON and LINEN PRODUCTS

Mid-Continent Representative

A. F. Campbell

Tulsa, Okla.
Phone 2-1117



RELYT

Boiler Tubes

Charcoal Iron
for bad water conditions—

Lapweld Steel
for good water conditions—

For long tube life.

The Tyler Tube & Pipe Co.
Washington, Pa.

Texas Stock—Harrisburg Pipe and Pipe Bending Co., Houston, Texas

Oklahoma Stock—Harrisburg Supply Co., Tulsa, Oklahoma.

TRADE **YALE** MARK

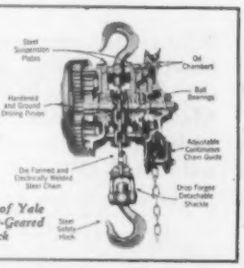
Ball-Bearing Spur-Geared Chain Blocks

Ball Bearing Load Sheave

are

Permanently

Efficient



Cut open view of Yale Ball-Bearing Spur-Geared Chain Block

Yale Handles Loads Better Yale Equipment Is Best

They are the most efficient hand hoisting devices produced—and their maximum efficiency is maintained over a long span of years—their old age retains the full vigor of their youth.

With them one man lifts 2,000 pounds three feet in forty-two seconds.

Words become facts when proved. Yale & Towne is the pioneer of the chain block business in America, making the first block in 1875, and is the world's largest producer of chain blocks.

The chain has much to do with block efficiency. Yale makes all its own shock sustaining chain of heat-treated steel, and has the greatest experience in making chains solely for chain blocks.

The steel is of uniform texture, each link is die-shaped, electrically welded, forged and trimmed for accurate fit into the pockets of the load sheave. The perfection of pitch eliminates friction and wear, and retains maximum efficiency.

The Spur-Geared block operates on the familiar mechanical principle of the planetary gear system. The spur-gears revolve planet fashion around a central pinion, and transfer the motion of the pinion to the load sheave which carries the hoisting chain. This type of gearing multiplies enormously the efforts of the operator and enables him to lift heavy loads with ease.

To insure a chain block which will serve you permanently with *maximum maintained efficiency* specify the Yale Ball-Bearing Spur-Geared Chain Block. It does not grow old—it does retain its full youthful vigor. Booklets gladly sent on request.

YALE MAKES

Yale Ball-Bearing Spur-Geared Chain Blocks, Yale Screw-Geared Chain Blocks, Yale Differential Chain Blocks, Yale Roller Bearing Trolleys and Cranes, Electric Chain Hoists, Electric Industrial Trucks.

Factory Locking Equipment—To acquire locking control, security and convenience throughout the factory, use Yale Master Keyed Locks.

The Chain Block with Complete National Distribution

YALE

The Yale & Towne Mfg. Co., Stamford, Conn., U. S. A.

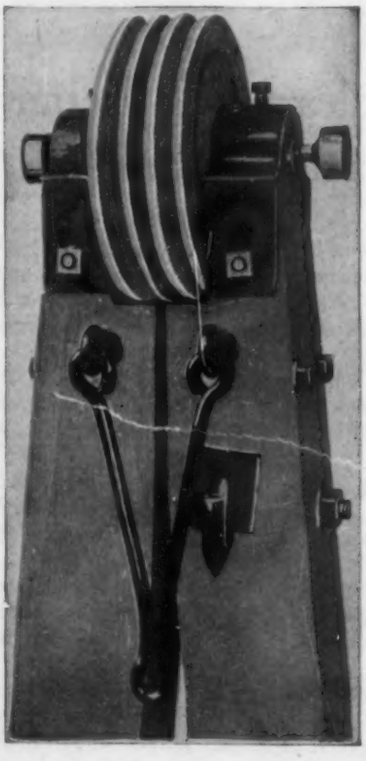
Canadian Branch at St. Catharines, Ontario

YALE MARKED IS YALE MADE

Hoisting ~ Conveying Systems

SAFETY PULLING MACHINE COMPANY

Wishes to announce that the Safety and Eclipse special Pulling Machines (7x10x36 ft. A-Mast) size will be equipped with Double Crown Pulleys, fitted with 2-15/16 Phosfer Bronze Bushings.



The price to remain the same. Safety $375.00. Eclipse $350.00. F. O. B. Factory.

Either the complete Machine or the Stripped Derrick equipped as above.

For complete description write

SAFETY PULLING MACHINE COMPANY

INDEPENDENCE, KANSAS

P. O. BOX 525

SQUEAKS FROM THE BULL WHEEL

How Pew Got the Cup

Sometime ago, following a meeting of the Texas Wildcats in Houston, J. Edgar Pew of Dallas was awarded a cup donated by J. Elmer Thomas, for making a hole in one.

Mr. Pew is probably the cup holdingest oil man in the Southwest, although he might (or should) modestly admit that as a golfer he is a good bridge player. He holds the Hamilton cup (having won it at Red Dog, for putting or some other harmless form of entertainment), has claimed all cups offered at all times and although Dudley Golding can putt further than J. Edgar Pew can drive, he is considered a deadly contender at all golf tournaments where the element of chance occurs.

Immediately following the awarding of the Thomas cup to Mr. Pew, Mr. Thomas wrote him seeking information as to how come.

Following is the correspondence:

Mr. Thomas to Mr. Pew—

Mr. J. Edgar Pew,
The Sun Company,
American Exchange Nat'l. Bank Bldg.,
Dallas, Texas.

Dear Mr. Pew:

I am unofficially advised that the "Thomas Hole-in-One Punch Bowl" trophy was awarded to you at the last meeting in Houston. As the donor of the trophy, I am curious to know the circumstances of the unusual feat you achieved on the links and hope that you are prepared to submit documentary evidence and affidavits from credible witnesses!

Please understand that I do not question your veracity in the matter. At the last two or three wildcat tournaments there has been altogether too much comment about your game and your scoring of same to leave open any question whatever.

With kindest personal regards, I am

Cordially yours,

(Signed) J. Elmer Thomas.
By K. B. W.

Mr. Pew to Mr. Thomas:

SUN OIL COMPANY
November 20, 1928

Mr. J. Elmer Thomas,
602 Fort Worth Club Bldg.,
Fort Worth, Texas.

Dear Mr. Thomas:

I have your letter of November 19th.

You are, of course, fully entitled to a very definite explanation of my golf game, and particularly that part of it which had to do with the winning of your cup, of which I am the proud possessor.

I attended the Houston meeting the early part of this month, and was an active participant in the doings there. The locker room was well organized, considerable bridge was indulged in, but the main event of the day was the golf match.

Having completed my stunt and having won the cup, I went to Austin to the football game. Spent a pleasant but hectic day, and finally arrived home satisfied with the results. I traveled no part of the way by automobile, but on a Pullman. My berth was very comfortable. Won a little money as a result of this trip, both on the election and on the football game.

I trust the above very detailed explanation fully satisfies your desire for information with regard to my wonderful accomplishment, and if you require any further affidavits, please advise me.

Yours very truly,

J. Edgar Pew.

JEP/m.

John Hamilton of the International Derrick & Equipment Company says that now in these days of the flue most business organizations open the day with the words, "Let us spray."

The traffic officer raised his hand, and the lady motorist stopped with a jerk. Said the officer, as he drew out his little book, "As soon as I saw you come round the bend I said to myself 'Forty-five at least.'"

"Officer," remonstrated the lady indignantly, "you are very much mistaken. It's this hat that makes me look so old."—Boston Transcript.

Some people wonder what the Mormon wedding ceremony is like. It's something like this:

Preacher (to groom)—"Do you take these women to be your lawfully wedded wives?"

Groom—"I do."

Preacher (to brides)—"Do you take this man to be your lawfully wedded husband?"

Brides—"We do."

Preacher—"Some of you girls in the back will have to speak louder if you want to be included in this."—Judge.

"Where do Alaskans sleep?"
"In their bearskins."
"Don't they get cold?"
"No, dear, they are well oiled."

Cleo: Where will the football game be tomorrow?

Leo: Why, in the stadium, of course.

Cleo: Goody! Now I'll see the place by daylight at last.

"You say he's sophisticated?"

"Sophisticated! Why, that fellow can order by number, without looking at the card, any sandwich at any chain drug store fountain between Chicago and New York."

"I wish," said the club bore, "that one of you chaps would give me a cure for insomnia."

"Have you ever," remarked one of his victims, "tried talking to yourself?"

ASCO STEEL
STANDS SUPREME

Every step in the production of Asco Steel is watched closely. From the selection of the raw materials to the finished product, the first thought always is to produce a steel that will give the best results to the makers of Oil Well Tools. Can we help you to produce better tools?

DISTRICT OFFICES:
503 Phil Tower Bldg., Tulsa, Okla.
541 McCormick Bldg., Chicago, Ill.

THE ANDREWS STEEL CO
NEWPORT KENTUCKY

Coming to NEW YORK?

Everything NEW *but its convenient location!*

FROM lobby to roof, the well-known McAlpin is now a NEW hotel—completely modernized—providing the finest accommodations in New York.

NEW, comfortable, modern furniture.

NEW, luxurious carpets throughout—

NEW, beautiful decorations—selected with the same care and thought you would exercise in furnishing your own home. Bed reading lamps in every room.

NEW high speed, self-leveling elevators that whisk you quickly and safely to any one of the 24 floors of the McAlpin.

A NEW type of courteous service ranging from quietly slipping the morning newspaper under your door to the iron-clad guarantee of the new management to *completely satisfy every guest!*

FRANK A. DUGGAN, *President and Managing Director*

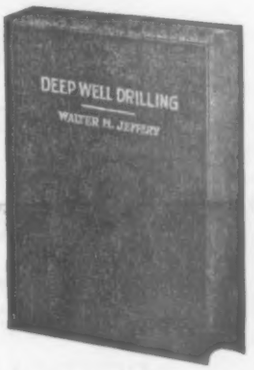
New Rates!
from $3.50 *per day*

McAlpin Rates NEVER VARY—in each room is plainly posted the RATE OF THAT ROOM

HOTEL McALPIN
ONE BLOCK FROM PENNSYLVANIA STATION
B'WAY *at* 34*th* ST.

Second Revised Edition . . .

Deep Well Drilling



By WALTER H. JEFFERY

Completely Revised and Brought Down to Date

One Hundred Thirty-One Pages New Matter Added

A comprehensive handbook covering in detail modern practices of well drilling by the standard or cable tool and the hydraulic rotary system.

During the few years that have elapsed since the publication of the first edition of "Deep Well Drilling" there have been so many improvements in well drilling methods and equipment that it was found necessary to practically rewrite the book for this second edition. This book furnishes complete information on drilling and the use of tools and equipment necessary to complete wells efficiently.

This book is a reference work for the engineer and the student and a handbook for the practical driller. Written by a man who has familiarized himself with his subject through a lifetime association with it. 662 pages, illustrated, flexible binding. Price reduced to $4.00, Postpaid.

Send Check to

The GULF PUBLISHING COMPANY
P. O. BOX 1307, HOUSTON, TEXAS

Gulf Refining Company

OKLAHOMA
TEXAS
LOUISIANA

Refiners of PETROLEUM

GASOLINE
REFINED OIL
NAPHTHA
GAS OILS
PARAFFINE WAX
PETROLEUM COKE
FUEL OIL
LUBRICATING OILS
CYLINDER
ENGINE
CORDAGE

Red and Pale Paraffine Oils

General Sales Offices: PITTSBURGH, PA.

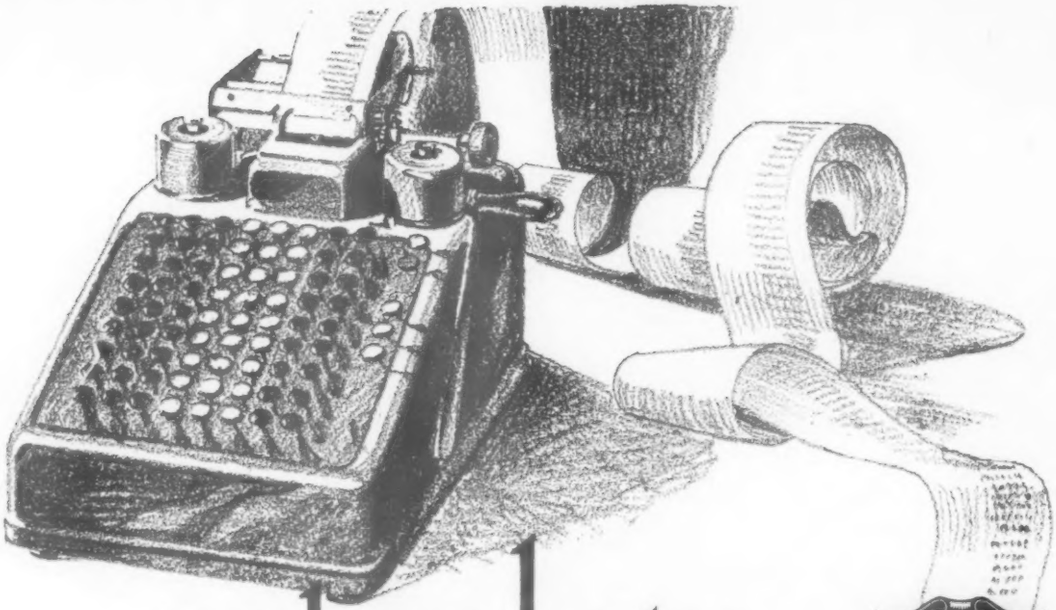
District Sales Offices:

NEW YORK, HOUSTON, ATLANTA, BOSTON, NEW ORLEANS
PHILADELPHIA, LOUISVILLE

Ocean Terminals:

Boston (Beverly), Mass.
Providence, R. I.
New York Harbor (Bayonne, N. J.)
Jacksonville, Fla.
Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Giraud Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas.
Galveston, Texas

ADVERTISING INDEX ..... 21 NEWS INDEX 23



THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

A

calculate your cost per barrel of pumped oil costs are *lower* with

Axelson Pumps

INTERCHANGEABLE PUMPS *for* INTERNATIONAL SERVICE

Axelson Machine Company
P. O. Box 337, Los Angeles
Tulsa, St. Louis
New York City: 30 Church St.
Mid-Continent and Eastern Distributors:
Frick-Reid Supply Corporation

Built into every set of Hughes Cones is the knowledge gained by 20 years of specialized laboratory and field experience.

From the selection of the Alloy steel for forging to their initial trip into the hole ~ every operation of manufacture is aimed at producing a finished product capable of performance in keeping with the Hughes Standard

The HUGHES TOOL COMPANY

first in Service to the Petroleum Industry